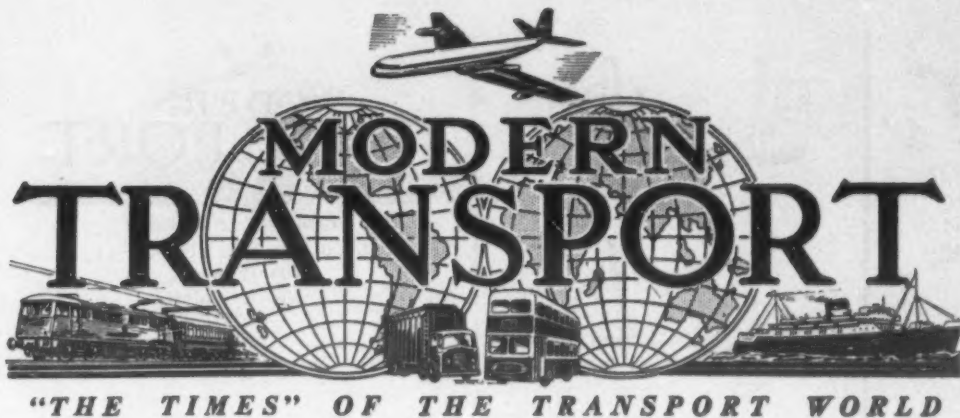


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VOL. LXXXII No. 2125

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LONDON, FEBRUARY 6, 1960

PRICE ONE SHILLING

CURRENT TOPICS

Years of Change

COMMANDING respect and attention for his native wit and wisdom, as well as because of his unique experience as the surviving working member of the British Transport Commission as it set out on its task in 1947, Sir John Benstead had some cogent personal thoughts to put before members of the Institute of Transport Metropolitan Section on Monday of this week. He paid a striking tribute to Lord Hurcomb and Sir Brian Robertson, the two chairmen, for their one driving purpose of providing an unequalled transport service. Without moaning he put clearly the Commission's difficulties in its formative years and how it had to meet a change in Government policy as soon as the national economic crisis was easing. He reminded hearers of some basic facts about unions and their dependence on voluntary effort among their members. British workers had the same traits that characterised the nation—detestation of snobishness or patronage and ability in times of stress to reach unparalleled heights. The first requisite in industrial relationships and understanding was ability to put oneself in the other man's place and analyse how we should react. He called, too, for public understanding—not just sympathy—of the problem of transforming a nineteenth-century railway system to one capable of meeting present needs. It was not a matter of politics, in so small a country as ours, to ask for a fresh assessment of the problems of transport, rail against road, public against private. Public transport services of the kind wanted by industry, commerce and the travelling community must be organised for and by their very nature must be based on, and depend on, a due amount of regulation and co-ordination.

Aberdeen Hotel Enlarged

A NEW ballroom and banqueting suite has been opened at the Station Hotel, Aberdeen, by British Transport Hotels and Catering Services. To carry out these improvements, part of the railway offices adjoining the hotel was acquired. It has been reconstructed to provide a room with an uninterrupted banqueting and dining area; this involved the removal of the cross walls forming three offices and the erection of steel stanchions independent of the main walls. Heavy welded and plated girders were installed to carry two floors of existing offices over the new ballroom, and the foundations were strengthened to form the dining-room. A new ceiling has been erected below the main girders, and lightweight wall linings conceal the structural alterations and installations. An area, with access through double-glazed doors, has been provided at each end of the room for a wine dispense, glass wash and store, and other equipment. Amplifiers have been installed in two positions flush with the ceiling. The original service rooms have been enlarged and remodelled, and new equipment, including stainless steel counters, hotplates, a mechanical dish washer and coffee-making equipment, has been provided. To reduce noise from the service rooms there are double flush sliding doors at the entrance to the ballroom from the service staircase. Ventilation is provided by thermostatically-controlled airducts, enabling fresh or warm air to be drawn in or extracted through circular baffles in the ceiling. These baffles carry electric-light fittings and brass chandeliers. Matching brackets are positioned on the wall, and emergency lighting is carried in wrought iron lanterns which hang between the decorative columns.

Busy Westinghouse Year

ANNOUNCING that the board now consists of six non-executive and five executive directors, Captain A. R. S. Nutting's statement for the 79th annual general meeting of the Westinghouse Brake and Signal Company records that both the trading and net profits of the group for the year to October 3, 1959, were "the highest they have ever been." At £2,557,488 the trading profit was £522,387 higher than that of the previous year. The results were not

achieved without a struggle. Expansion of the company's design, engineering and production facilities in anticipation of the demands of British Railways' modernisation programme enabled its signal and colliery division to install for the railways a record quantity of material. Unfortunately, owing to shortage on the railways of specialised signal engineering staff, their resignalling programme has not advanced as rapidly as was expected. In consequence some of the capacity made available for the purpose has had to be transferred to the manufacture of other products. Hence, from the production

cafeteria-style catering—has been in circulation for a good number of years, with still no firm indication at the moment that such ships will ever be built. Many are still, nevertheless, hopeful.

Prestige

LAST Atlantic liner to be built for prestige purposes was the American liner *United States*, and this, of course, operates under a Government subsidy. Moreover, it must be kept in mind that she was built with an eye to speedy conversion for other purposes in the unfortunate event of

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viewpoint, output during the current year may not reach the record of last year. Whilst orders for the brake division have been satisfactory in volume, its operations in the matter of railway brakes have been affected by inability of customers to accept deliveries at the agreed rate under certain long-term arrangements. Further capital expenditure has been approved by the board with a view to developing lines which appear to have good long-term prospects. The statement points out that it is essential for the group to expand its share of the nation's overseas trade and that this can be done only if its traditional customers continue to provide a flourishing home market. Its managing director, Mr. M. W. Shorter, has just returned from investigating possibilities in South America.

Do We Need Big Liners?

MUCH deliberation is taking place at the moment on what size of ships should be used for future service in the transatlantic passenger trade. First there is the question of whether the ageing Cunard liners *Queen Elizabeth* and *Queen Mary* should be replaced, and there is still some support for an American scheme which would provide 110,000-ton cheap-fare Atlantic super-liners. These two ideas are, however, so vastly different in their purpose that one hardly dares mention them in the same breath. With regard to the replacement of the "Queens" many have come out in open support and said that national prestige and numerous other factors demand their replacement, while others are of the opinion that air transport has made such inroads into transatlantic travel that there is no economic future for great liners of the conventional type. The T.U.C. general council has shown refreshing wisdom on the subject. Asked for its opinion by the Chandos Committee—which is examining the question of the replacement of these liners—the T.U.C. has reported back that it has been unable to secure the information it needed to arrive at a firm conclusion on whether or not the liners should be replaced. The second idea—that of large liners ferrying people across the Atlantic at a very low fare rate with expenses cut by such ideas as

another war. When it comes to talking of prestige, the two "Queens" have done a magnificent job for Britain. They were built at a time when unemployment was high; they captured public imagination at a time when there were no moon rockets or television "wonders," and were a natural subject for the publicity and advertising which encouraged people to travel in them. Britain has been accused in some quarters of lagging behind in the race to provide an atomic-powered ship, and it is quite possible that by the time the new liners will be off the drawing-board we will have either caught up or be in the lead. The question of a subsidy to build the vessels is a delicate one. It cannot be said that they are needed for the unemployment their building could relieve, and it could lead to demands for subsidies to build other types of ships. There only remains the question of prestige. They do offer an opportunity for British shipbuilders to outshine the rest of the world in producing something really revolutionary. Indeed they must do so, otherwise the ships will never attain either their commercial or prestige objective.

Towards Greater Prosperity

THIS week's luncheon meeting of the Institute of Transport, roundly marking the fortieth anniversary of its first address by its first president, Sir Eric Geddes, was most appropriately addressed by Sir Eric's son, Mr. Reay M. Geddes, managing director of the Dunlop Rubber Co., Limited. If the father showed remarkable insight into the railway situation, foresight in looking on air transport as the link of Empire, with a sense of the distant objective and a deep pride in what Britain could do for itself and others, the son showed no less keen grasp of what must be done to mould the future. Taking the theme that if we tried we ought to be able to do better for ourselves as well as something for the less fortunate, he thought a transport audience most likely to be receptive to it because in transport middle- and long-term forecasting was familiar; moreover, transport stood halfway between Government and public. In its 40 years the Institute of Transport had become a highly

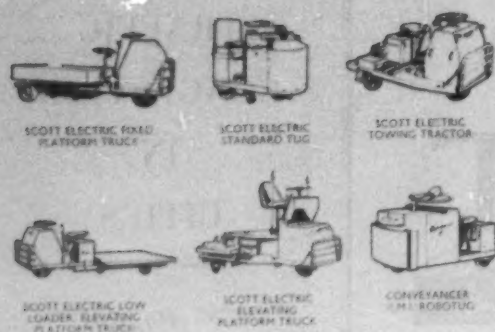
respected forum for the presentation of such themes. Whereas for us 2.8 per cent yearly growth in real national income was thought right for doubling our standard of living in a generation, some of our trading rivals, such as Western Germany, were running at a 4 per cent level. That meant our standard of living was going to be overtaken. Could we not meet the challenge and do better without involving ourselves in disastrous inflation? He thought there was a case for the public being allowed to see the choice as to a 2.8 or 3.8 percentage growth and to debate it. We might then take a new lease of life and do better than was thought possible. Besides a statistically complete economic survey for official information, could not the general public be offered a picture of the Britain in which their children would grow up and be shown how to attain it. Let them see in such a popular survey 1970's achievements in prospect and thus hurry them on.

Severn Bridge Planning

PLANNING of the Severn Bridge and approach roads has reached a new stage. A draft Order, under section 13 of the Highways Act, has been issued providing for alterations to public roads and footpaths near the proposed new bridge. These alterations are necessary because access to the road, apart from the terminal junctions with A38 on the east and A48 on the west of the Severn, will be limited to two junctions with existing major roads. These will be with the Aust—Almondsbury Road (B4461) by means of a spur road at Aust, and with the Newhouse Farm Road and the future Wye Valley Link Road. Alterations include re-alignment and re-grading of 21 lengths of existing roads and footpaths, the construction of 14 new lengths of road and eight new footpaths, and the provision of a new means of access to private property affected by the construction of the new road. During the next three months, any person may make representations to the Minister of Transport or lodge objections to the making of the Order.

Railway Employment Stresses

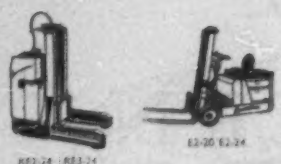
RAILWAYMEN as a whole have a fine record of public service; they had obviously achieved a considerable measure of public goodwill in respect of a possible wages increase. It is a thousand pities that this should be sacrificed by the threat of a strike and by such demonstrations as Monday's token affair in the London area, which sufficed merely to show the folly of travel by private car. Refusal by T.S.S.A. and A.S.L.E.F. to accept "something on account" is no doubt laudable in the light of the agreement, when the Guillebaud Committee was appointed, to await its report. But the labours of the committee have been unexpectedly prolonged, and the poorer paid railway employees are "feeling the pinch." Railwaymen have undoubtedly lost ground financially compared with some industrial and constructional workers; their jobs, however satisfying public service may be, do not carry the social status they enjoyed in former days. It seems that the executive of the N.U.R. was not strong enough to resist the demand of its more extreme members for a nationwide strike, despite the fact that this involves the breaking of agreements. Since the strike has been fixed to begin at midnight on February 14 there is time for reflection and negotiation and, not least, for the exercise of persuasion by the Trades Union Congress. It might be that honour could be satisfied if, at Government request, the independent committee arranged to present within the next few days a brief interim report giving the gist of its conclusions. There appears little doubt, however, that Mr. Claude Guillebaud and his colleagues feel that to hurry the finishing stages of their work would ruin all. A strike at this time would be nothing short of disastrous to railway rehabilitation, apart from the loss and inconvenience it would cause to the community, a factor reflected by T.U.C. interest in the matter. One cannot but sympathise with the British Transport Commission, whose chairman has evidently done everything in his power to satisfy the claimants.



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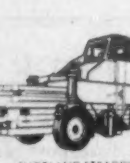
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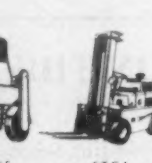
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The Editor is prepared to consider contributions offered for publication in MODERN TRANSPORT, but intending contributors should first study the length and style of articles appearing in the paper and satisfy themselves that the topic with which they propose to deal is relevant to editorial requirements. In controversial subjects relating to all aspects of transport and traffic this newspaper offers a platform for independent comment and debate, its object being to encourage the provision of all forms of transport in the best interests of the community.

The Measure of Road Transport

FURTHER invaluable work on the collection of statistics relating to the work performed by the road goods transport vehicles in this country has been placed on record by Mr. K. F. Glover, statistician of the Ministry of Transport. The result of his new investigation* has been to devise a current statistical guide to work done by this enormous fleet, now some 1,300,000 vehicles. Briefly, it is derived from correlation of the results of two sample surveys, the 1958 survey conducted by the Ministry directly among operators, and the continuous manual counts at selected roadside points commenced in January, 1958. The first supplied information about one brief period in the life of the selected vehicles, the second produces a current (month-by-month) index of ton-mileage which it is hoped will eventually constitute a valuable pointer to seasonal influences and those arising from the rise and fall of general economic activity. The author points out that the 1958 survey was primarily concerned to find out more about the structure of the industry and the development of its various component parts, about the patterns of operation of the industry or particular parts of it, and about the nature of the goods carried. An attempt was made from the available data to evaluate the total ton-mileage produced, but total output in this sense can alter substantially from time to time, hence the need for a frequent and prompt measure of that change. The monthly running index, derived from the continuous count, is designed to meet this need.

Use of Traffic Counts

FOR practical reasons the more frequent sampling of the industry along the lines of the 1958 survey is out of court and in any event the margin of error in such small samples, it is stated, is probably so large as to obscure (or misinterpret) changes in the short periods now desired. In 1955 fifty points chosen by a random process on trunk and classified roads were used by the Road Research Laboratory for the purpose of traffic counts. From January 1, 1958, a continuous series of manual counts was begun at these points on Fridays, Saturdays, Sundays and public holidays, so as to give estimates of the changes in the aggregate vehicle mileages performed on the roads from one month to the next by each major category of vehicle. (One use of these statistics is seen in the monthly correlation of road accidents to vehicle mileage.) The counts extend from 6 a.m. to 10 p.m. and thus miss the substantial night goods traffic volume on certain trunk roads. This handicap is overcome by assuming that night traffic changes in the

* Presented in a paper to the Royal Statistical Society in London on January 20.

same proportion as daytime traffic and the former is included in the aggregate as a constant proportion. To check undisclosed seasonal variations in night traffic, however, 24-hour counts are being made at certain points. These counts, as already indicated, make it possible to prepare monthly estimates of changes in vehicle mileage of light and heavy goods vehicles (the former being those not over 1½ tons unladen) and from there to prepare an index of the total ton-mileage performed. It is not necessary here to follow the author into an examination of the possible objections to this manipulation of the statistical information; like him, we may be satisfied that ton-mileage statistics probably underestimate the work performed by road transport; first, because many vehicles carry bulky loads, the weight of which do not reflect carrying capacity; secondly, because the ratio of carrying capacity to unladen weight has latterly been rising (and will probably continue); and thirdly, because in the event many classes of vehicles are grossly overloaded. None of these factors is necessarily discernible on paper or to the naked eye.

One-Third More Work in Two Years

TABULATED on a monthly basis, the index of road ton-mileage is shown to have risen from a base 100 in January, 1958, to 133 in November, 1959 (the index does not distinguish between large and small vehicles) and exhibits the seasonal movements which one would expect. Thus, from a low of 102 in January last year it rose fairly steadily to 126 in June, then declined to 120 in August, reflecting the summer holiday period, to build up again as the Christmas season approached. An attempt has been made to project the results backwards into previous years. The result again demonstrates the impressive growth of road transport—from the 8 to 10 thousand million ton-mileage of 1938 it is a big advance to 18 thousand million in 1951, to 23.1 thousand million in 1958 and an estimated 24.6 thousand million last year. Related to known railway ton-mileage an even more revealing picture is presented. Against the November 1959 index mentioned above, the rail freight index at the same point in time had declined to 95, although this was in fact above the average for the year. In 1959 the railway share of freight is thought to have declined to 42 per cent of the whole, compared with 44 per cent in 1958, but it is emphasised that this relative decline was only marginally due to an actual loss of traffic to road transport. The railways are still carrying more freight than they did in 1938; by far the greater part of what is now carried by road is new traffic, the author points out.

Transport as an Early Warning Index

GREAT interest attaches to the concluding section of this paper in which he essays to explore the relationship between transport and production. In Western Germany, it appears, some stimulating research has been put into this aspect and forecasts have been projected as far ahead as 1970. The elaboration of transport statistics in this country is now, under the able direction of Mr. Glover, approaching the stage at which they can be "linked more closely to general economic statistics in the same way as transport itself is interwoven with all the economic activities of the country." The difficulties are considerable—for one thing, it is not known what the effect of variations in stocks is upon the volume of transport. A reduction of iron and steel stocks caused a decline in rail movements, but so did an increase in undistributed coal stocks. The volume and character of imports is a factor which must be resolved. In the matter of stocks, it is probably important to find out at what stage of the production and distribution stages they are being built up or run down. However, when all these difficulties have been allowed for, it is again possible to produce a monthly index of inland goods transport (road and rail) related to an industrial production index. If the average for 1958 as a whole is 100, the October, 1959, index was, transport 111, production 115. (A composite table of these indices appears on page 14.) From an estimation of similar indices back to 1938, the general conclusion reached is that there now seems to be a tendency to economise in inland transport in physical terms as the economy grows. The case for a monthly transport indicator as giving an early indication of changes in the index of production and in economic activity is clearly overwhelming. In the U.S.A. they have a figure for railcars loaded; in our tight economy a combined road-rail index is a big jump forward. It is indeed encouraging to learn that the foundations have been well and truly laid.

DESIGNING

AND MAKING TRACTION EQUIPMENT

You, as an engineer, know that there can be no sharp dividing line between designing and building. A good design incorporates experience gained in making, testing and commissioning similar equipment in the past. And, of course, it is also shaped by the experience of all sorts of people using the earlier designs under a variety of conditions that could not be simulated in any test laboratory. To a long-established company such as Crompton Parkinson this process of feedback of information to the designer is fundamental. In traction equipment, where space and weight must be kept down, and yet robustness and accessibility are at a premium, it shows up in the simplicity and elegance with which these conflicting demands are reconciled. As for example, by the neat cylindrical frame of the latest trolleybus motor. In the design of these motors we were able to make direct use of the experience we had gained with earlier trolleybus motors as well as more indirectly from hundreds of other equipments built for main line locomotives, shunters and motor coaches.

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NEWS SUMMARY

THE executive of the National Union of Railwaymen on January 29 decided to call a strike of the 355,000 members of the union as from February 15. Sir Brian Robertson, chairman of the British Transport Commission, said that B.T.C. and unions had agreed not to enter into prior commitments on wages before receiving the report of the Gillebaud committee next April and that could not be varied at the request of only one of the four parties. The other two unions were unwilling to anticipate the report. In proposing to strike the N.U.R. breaks its agreement to await the report and also its agreement to follow the negotiating machinery. Sir Brian has already offered to back date an award to January 11 and has reaffirmed his belief that the Commission needs the services of a contented and adequately rewarded body of railwaymen. The Trades Union Congress has called informal talks with a view to averting the strike.

The first of two new 4,000-ton vessels for the Channel Islands services of the Southern Region of British Railways was launched at East Cowes on January 29 (see page 10).

On Monday of this week the traffic situation became chaotic in Central London from 8 a.m. to 8 p.m. owing to an influx of private cars brought about by a partial cessation of tube railway services owing to the 24-hr. strike of some London district members of the N.U.R.

London Transport has entrusted Kinnear Moodie and Co., Limited, and Edmund Nuttall Sons and Co., Limited, with experimental tube tunnel construction work valued at about £400,000 in order to bring knowledge and experience up to date. The site chosen is a mile of twin tunnel on the alignment of the authorised Victoria Line between a shaft at Finsbury Park and one at the junction of Seven Sisters Road and Netherdown Road.

The Air Registration Board has requested certain modifications in the Boeing 707-420 jet air liners, 15 of which are on order for the British Overseas Airways Corporation. This may delay deliveries.

TRAFFIC CONGESTION IN OUR CITIES

Its Causes and Consequences

By CHRISTOPHER T. BRUNNER, M.Inst.T., Vice-Chairman,
British Road Federation*

THE Road Research Laboratory has calculated that, in 1958, if the value of leisure time is omitted, the cost of congestion was some £200 million; last year the cost was of the order of £240 million. This estimate represents the difference between total cost at present average speeds of 20 m.p.h. and 32 m.p.h. in urban and rural areas respectively, and total costs at what might be regarded as reasonable speeds of 25 m.p.h. in urban and 40 m.p.h. in rural areas. In addition, such savings would increase at more than twice the rate of traffic growth, or at about 15 per cent a year.

The first factor to be cited as a cause of this congestion is the growth in the number of vehicles. The number of vehicles registered in Great Britain in 1959 was just over 8½ million, including about 5 million cars, over 1½ million goods vehicles, and 1½ million motor cycles. This represents a doubling of the vehicle "population" since 1949. Since 1946 the rate of increase has remained fairly constant at about 8·2 per cent per annum.

In considering commercial transport, the fact which stands out is that the number of C-licensed road vehicles has more than trebled since 1938. The Ministry of Transport survey of freight transport generally, made in 1958, showed that, in terms of ton-mileage, the roads carried 45 per cent, the railways 35 per cent, and water 20 per cent of the total. Some critics have urged that a double object could be achieved if the bulk of this traffic were diverted to the railways, first, of easing road

the number of cars entering the central areas has increased. London Transport bus and underground services showed a decline in passenger journeys from 4,631 million in 1949 to 3,783 million in 1957. Within these figures, the bus services suffered more severely, showing a yearly decline, whereas the Underground has shown slight increases since 1952, apart from setbacks in 1954 and 1957. The reduction in bus services, made in 1958, to 76 per cent of the 1950 mileage, is likely to accelerate this trend. Evening rush-hour travel from Southern Region London termini amounted to 31 per cent of the total day's traffic in 1938; in 1958 the figure had risen to 43 per cent.

Rehabilitation of Public Transport in U.S.

It is clearly impossible in present-day London for another million people to come to work by car, even if they wished to do so, and a proper balance must be maintained between public and private transport. In several cities in the United States major reliance has been placed on the private car to get people to and from their work, but in face of demands for more and more road and parking facilities, the more usual trend is for attempts to be made to revive public transport systems, although these have not been outstandingly successful. In Los Angeles, where almost one-third of the land area is already used for parking, work on a rapid transit system is to start this year. Improvements to the public transport services in Chicago have attracted back some 14,000 daily passengers, who previously used their own cars to get to work. This, of course, is marginal.

Cities are great, not because of their size or population or even their history, but because of the function which they perform. This truism is



A comprehensive redevelopment scheme for a three-acre site in the centre of Birmingham—a four-storey shopping centre, multi-storey office or residential block and car park. This is St. Martins Circus, where the new ring road crosses Bull Ring (seen left and right). More details appear on page 4

congestion, and secondly, of reducing the railway deficit. This facile line of argument ignores the basic economic considerations which have caused the swing from rail to road.

Explanation of Road Transport Increase

The user clearly selects that form of transport which best fulfils the requirements of his business. The type of goods to be moved has changed; and a much higher proportion of the total comprises manufactured goods. Industries using mass-production techniques have become increasingly dependent on road transport. A speedy and flexible form of transport is necessary to keep the production line smoothly and continuously supplied with every component, for if the line is stopped, thousands of workers may be idle. A motor manufacturer in Birmingham or Coventry can with maximum efficiency and economy concentrate on making engines and standard bodies, and on final assembly use road transport to bring in chassis frames, special bodies, tyres, and electrical equipment supplied by manufacturers and numerous small components from specialist firms.

British Railways is making strenuous efforts to win back custom and, if it can compete in price, flexibility, reliability and speed, there appears to be no reason why it should not at least check the present trend, but double-handling remains its biggest single drawback. The American piggyback service, whereby trains carry complete lorries or their trailers, is being extensively encouraged in France and appears a possible development in this country, alongside the container service now being widely operated by British Railways.

Investment in Roads

Against the background of rapidly increasing vehicle ownership, investment in roads has been totally inadequate. In the period 1911 to 1959, when vehicles rose in number from under 193,000 to over 8½ million, the mileage of all categories of roads and streets only increased from 175,500 to 191,000. Nearly all this growth represents streets in new housing areas. Although international comparisons are difficult, because of variations in the definition of what constitutes a road, Great Britain is recognised as having the highest vehicle density in the world, with 31 vehicles, excluding motor cycles, per road mile, against 20 in the United States.

The L.C.C. in its 1957 policy statement pledged itself "to reduce the area in which large office buildings are permitted in Central London and so stem the tide of increasing employment in the centre." A travel census taken by London Transport in November, 1958, showed that between 7 a.m. and 10 a.m., some 1,148,000 people travel by bus and train to their work in London, while a further 70,000 come by private car. Ever since petrol was rationed in 1950, there has been a steady decline in the use of public transport, while

frequently forgotten in face of the challenge of the motor vehicle. The function of any city may change from time to time but unless it can fulfil its role in particular circumstances, it will inevitably decline and other more adaptable centres will take its place. A decreasing population in the city centre, already noted in the case of London, is normal in all highly developed countries. In the United States, it has been said, the central city is being more and more abandoned as a residential area "by all but the very rich, very poor, the negro and the ambitious, unmarried or childless young."

Balanced City Development

There is an urgent need for more positive planning; unless energetic steps are taken to revive our city centres and make them pleasant places for people to live in, the pressure outwards will burst through the Green Belt and urban sprawl will cover our countryside. A balanced city should be the aim, with the maximum numbers living within easy reach of their work and entertainment; future developments should be on the pattern of the Barbican project in the City of London, which includes schools, a theatre and concert hall, and 2,600 parking spaces for the 6,000 people who will live there.

As the number of vehicles grows, the more frequent are proposals either for banning vehicles from city centres, by the establishment of permanent "pink zones," or for making it more difficult or more expensive for them to enter and stay. Mr. Marples' experimental "pink zone" scheme eased the severe congestion which has been experienced in recent years over the Christmas and New Year periods in the West End of London. But this approach to the problem is entirely negative and ignores the basic function of a city and the reason why it exists at all; if people cannot easily shop, make business or professional visits, or attend entertainment in the city, they will sooner or later transfer their custom elsewhere. No city which refuses to plan for the reasonable use of motor vehicles can hope to retain its position.

Parking Meter Results

The parking problem has aroused fierce controversy over the place of motor cars in cities. On one point there is agreement in principle on all sides—that some restriction must be placed on long-term kerb-parking, although there is no such unanimity about the best method of achieving this.

The official policy for stopping long-term parking is the use of meters, first tried in Britain in the north-west Mayfair pilot scheme. The results of this pilot scheme merit examination: 60 to 70 per cent of meter space was occupied on an average during the day, and 90 per cent during the busiest hours; the number of parked vehicles was halved and double-parking eliminated. Average traffic speed increased 9 per cent, and accidents in the meter area only increased 8 per cent, against a

(Continued on page 14)

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* Abstract from a paper presented to the Royal Institution of Chartered Surveyors in London on January 26.

LORRY—BUS—COACH

Brighton Area Co-ordination
Progress

NEGOTIATIONS for a pooling agreement in respect of bus services in the Brighton, Hove, Portlady, Southwick and Shoreham areas have now reached the stage when the terms of a new agreement between the three operators concerned—Brighton Corporation Transport Department, the Brighton, Hove and District Omnibus Co., Limited, and Southdown Motor Services, Limited—are to be laid before Brighton Town Council within a month. The basis of the negotiations has been that each of the operators would retain its identity and internal administrative arrangements, with a common policy of traffic operation and a common pool of traffic revenue. The negotiations have been reported as proceeding in an atmosphere of goodwill, and Alderman A. V. Nicholls, chairman of Brighton Corporation Transport Committee, told the committee that they had now reached a "satisfactory conclusion."

New Liveries for C.I.E. Vehicles

CORAS IOMPAIR EIREANN has decided to paint its provincial service buses in a new livery, red and cream. Red and cream buses have been operating on a few city and provincial routes for some time past. The changeover will be a gradual one over a period of about four years. City buses will retain their two-tone green livery for the present, but the question of introducing a new colour combination for them is being considered. Some C.I.E. road freight vehicles are also being given new colours. Three new furniture vans painted in two-tone grey have been used with off-white striping on the van body. Colour is in fact playing an important part in the new C.I.E., on vehicles and buildings.

Lessons of the Pink Zone

NO serious difficulties have been reported by suppliers or shopkeepers in the London "pink zone" and the consensus of opinion is that traffic in general and goods vehicles in particular were able to move about the main streets more quickly. Experience in side streets was patchy. There are reports of conditions being quite good and at other times very bad. Many suppliers and shopkeepers report that the majority of deliveries were completed by 1 p.m. Suppliers and carriers say that this was accomplished either by the use of extra vehicles or concentrating inner-zone deliveries in the morning and outside-zone deliveries in the afternoon. These expedients were only possible because of the comparatively restricted area of the zone. It would seem, says the T.R.T.A., which sponsored the inquiries, that in the main the improvements in the "pink zone" were secured in those places where there was strict control of indiscriminate parking. Difficulties which the absolute bans on loading and unloading at the main intersections created for suppliers and shopkeepers were reduced by the fact that they were relatively limited in extent and the morning period was free for loading and unloading. Reports indicate that

the police were always considerate and helpful in respect of unavoidable afternoon deliveries. The T.R.T.A. and the R.H.A. feel that every effort should be made for the immediate extension throughout the whole of the Central London area of controlled parking, whether it be by parking meters or other means.

Express Route Linking Issues

ALTHOUGH express linking was perfectly legal, Ribble Motor Services, Limited, North Western Road Car Co., Limited, and Lancashire United Transport, Limited, having heard the views

must alight at Manchester, and prohibition of booking, linking with other services and of advertising through facilities.

Replying, Mr. F. D. Walker, for the applicants, said there were large numbers of passengers going forward to other destinations, and it was not reasonable to expect them to alight when they were to continue their journey from the same bus station. The Commissioners had no power to impose any of the conditions sought. Once a bus had come to a halt in a bus station it was not under the control of any road service licence until it started a fresh journey; so far as booking was concerned they could sell any tickets and collect fares and had no obligation until the vehicles started to move; and the question of advertising was also a dubious matter so far as the Commissioners' powers were concerned. There could be no true comparison with excursion linking because in law the present express links were unchallengeable. Reserving decision, the chairman, Mr. F. Williamson, said there were many similar features in the Tyne-Tees-Mersey Pool application to link with Llandudno. The decision of the North Western

B.R.S. Strike Ends

DRIVERS employed at the Thornaby-on-Tees and Stockton depots of British Road Services returned to work last week after the three weeks' strike over new schedules. With some remaining London men returning also, this brought the stoppage to a close. Following an interview between the union and B.R.S. management on Tees-side it was agreed to amend certain schedules in detail.

Birmingham Leads Again

WHAT would be Europe's finest shopping centre is proposed by the Laing Investment Co., Limited, for the Bull Ring area of central Birmingham. The area to be redeveloped is more than three acres flanking what is now known as St. Martins Circus, the intersection of the new ring road with Bull Ring at Moor Street. There will be a self-contained four-storey shopping centre with 141 shops and departmental stores and a central parcels depot where shoppers can leave their parcels until ready to leave. The new centre adjoins the proposed 32-stand bus station at Dudley Street, on the section of the ring road (over Smallbrook Street) which will be known as Smallbrook Ringway, and it will also be directly linked with a proposed new concourse of New Street Station. There will be a multi-storey car park. An impression of the completed scene appears on page 3.

Balance of Oswald Transport Application

THE West Midlands area Licensing Authority has now announced his decision on the balance of the application made by Oswald Transport, Limited, referred to in MODERN TRANSPORT of January 9. Mr. W. P. James postponed his decision on part of that application which concerned two articulated vehicles sought in respect of a base at Talke, but at present specified in an A-licence with a base at Wigan. He has been informed by the licensing authority for the North Western area that he has decided to suspend both these vehicles from the A-licence issued by him for a calendar month with effect from March 1. Mr. James says that he is satisfied that he can grant (in addition to the four vehicles already authorised with a base at Talke) the two vehicles mentioned above. The normal user will not include an undertaking not to seek traffic from the Potteries area, which was voluntarily inserted by the applicant for the other four vehicles. The grant will not take effect until April 1.

Bus and Coach Developments

Commencing February 3 the Monday-Friday peak-hour extension of London Transport bus route 124 between Eltham and Blackfen was withdrawn and instead school journeys are operated from Eltham over the route of 128 to Hook Lane, Rochester Way, thence to Falconwood Parade. The Sunday afternoon extension to Bexley Hospital continues under the same route number. School journeys are also now operated on route 252 to Lodge Lane School, Collier Row. Such journeys, as extensions of existing routes, are a relatively new feature of Central area operation.



One of five Dodge 7-ton tractors, specially shortened and modified vehicles for hauling 10-ton Union Cartage meat trailers. The cab has been narrowed in width to meet congested operating conditions. It incorporates a translucent glass-fibre roof, heater and demister.

of the Minister of Transport, would consider it their duty when making applications for new services, or seeking modifications or variations to bring into being a potential link, to declare it. This was said before the North Western area Traffic Commissioners, at Manchester on January 27, when these joint operators of express services between Blackpool and Manchester had their applications for renewal without modification opposed by an excursion and tours operator, W. Robinson and Sons (Great Harwood), Limited.

Mr. J. Booth, for Robinson, said that, by linking with other services between Manchester, Nottingham and Great Yarmouth, the applicants had created a new through unlicensed service in competition with Robinson's period excursions to that resort. Through bookings were accepted and facilities and through fares advertised in the Press. During the summer peak of 1959 through coaches ran from Preston to Great Yarmouth, he alleged. He submitted that the Robinson service should be protected by conditions requiring that passengers

and Yorkshire traffic commissioners in that case, which included prohibition of advertising, was under appeal, and until the Minister's decision the matter would stand. They would then intimate whether it was their intention to publish a proposal to vary the licence.

London Bonus Scheme

PRELIMINARY discussions between union representatives and London Transport concerning the proposed incentive bonus scheme for bus crews have been concluded and a decision on whether formal negotiations should be opened between the two sides will now be taken by the union.

Local Authorities' Commissioners

SPEAKING in Leeds, Mr. J. Evans, a Leeds solicitor, expressed the opinion that it was a bad thing that representatives of county and borough councils and urban districts, having

What you gain
on the swings...

PAINTED WAGONS roll along the summer roads of Britain. The fun of the fair is on the move. Loaded convoys are bringing bustling blaring life to surprised meadows. For a day, two days, merry-go-rounds and dodgem cars whizz among the daisies. Excited children jig with wonder. Then, quickly as they came, stalls and shies, caravans, dogs and people vanish. And are off on the road again.

THE SMALL WORLD OF SMITHS

Among those who live their life on wheels are the Smiths. A big family who travel together from Birmingham to Gloucester, from Hereford to Oxford, from Easter to October. Sam Smith, his wife and 14-year-old son are part of that small world.

On the fairground Sam runs 6 swingboats and 8 slot machines. On the road he drives a lorry with the family's 4 ton caravan in tow and all the swingboat gear, slot machines and a small generator on board. The lorry is no ordinary vehicle, as Sam will proudly tell you. "It's the best motor was ever made—in front of anything else today. That motor will go for ever and a day." The motor is a 1949 Austin 2 tonner.

SAM'S REMARKABLE VETERAN

Before Sam Smith bought it, his Austin worked hard for the General Electric Co. Ltd., Birmingham. "I've had it 4 years now and I haven't spent a bean on it. She stands out all winter too and when it's time to go I push the button and we're off. Never have to use the handle."

What does Mrs. Smith say? "The lorry? It's a real good one. Yesterday it flew up that hill by Camden—never even got warm. It was lovely!"

"Never bother me, hills don't," Sam agrees. "The lorry just keeps pulling all the way. It's a pleasure to go anywhere—we all go to the pictures in it. I wouldn't swap it for anything." He should know—he's been driving for 25 years now.

What about petrol consumption? "25 m.p.g. empty, 15 m.p.g. loaded." Look sceptical and he'll say, "I ain't kidding. It's definitely been a good lorry. It's done its job and done it well." What Sam Smith makes on the swings he doesn't lose on the roundabout with Austin!

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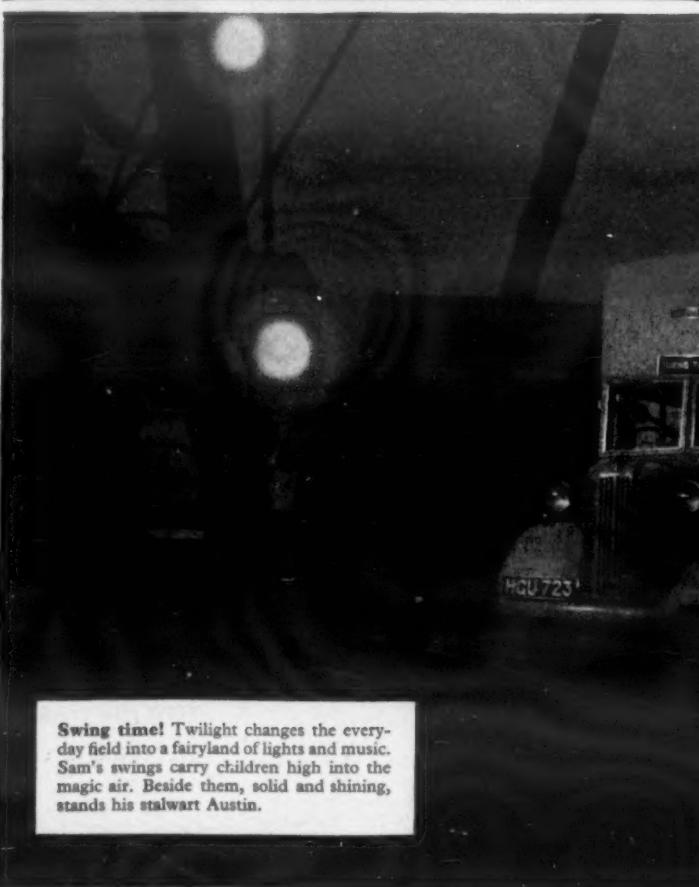
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Swing time! Twilight changes the everyday field into a fairyland of lights and music. Sam's swings carry children high into the magic air. Beside them, solid and shining, stands his stalwart Austin.

CO-ORDINATION OF TRANSPORT

Links Between Great Britain and Continent

By Sir BRIAN ROBERTSON, Bart., G.C.B., G.B.E., Chairman,
British Transport Commission*

LINKS between this country and the Continental transport systems include a fleet of some 50 or so ships, owned by the British Transport Commission and the Continental railways, or administrations associated with them, plying across the narrow seas. The bulk of passenger movement between Great Britain and the Continent is still in the hands of surface transport—figures for 1958 were by surface, 4,357,000 passengers and, by air, 2,975,000 passengers.

As with all forms of transport, this international passenger movement has its peaks; the number conveyed in August by surface is about 10 times that in February and, within the peak month, there are also marked peaks at the weekends. On the busiest day last year, on the rail-sea services through the range of ports from Harwich to Southampton inclusive, we conveyed 44,000 passengers, involving the operation of 89 boat trains and 44 sailings of ships.

Train Ferries

The form of link which most closely connects the railways of this country and the Continent is, of course, the train ferry. There are examples of train ferry routes all over the world and they have extensively developed in the Baltic. Our seaboard is, however, not very favourable to the easy operation of train ferries. In the first place, the narrow seas are, on occasions, unkindly. Secondly, the tidal range—for example, over 20 ft. at Dover—is much greater than in the Baltic, necessitating rather elaborate installations to make the level bridge between ship and shore. Nevertheless, successful train ferry routes are in operation between Dover and Dunkerque and between Harwich and Zeebrugge.

About 500,000 tons of cargo are conveyed in each year by the train ferries, in wagons circulating between stations on the Continent and stations in this country. When the ferry routes were inaugurated between the wars, the preponderance of the traffic was imports, but, latterly, exports have been increasing and a much better balance is being achieved. A variety of cargo is handled; for instance, machinery and chemicals outwards from the United Kingdom and perishables from the Continent. The ferry traffic is worked in such a way that the Customs' clearance of much of the traffic is carried out at inland depots, obviating delays at the ports. British Railways is constructing a large depot at Hither Green for the clearance of perishables passing via Dunkerque and Dover.

For ferry working, there are about 8,000 wagons generally conforming to Continental standards but specially built to the smaller British loading gauge. Their employment and movement is governed by various international arrangements. Timings of through freight workings are determined by the European Goods Train Timetable Conference, of which the Czechoslovak State Railways have always been the managing administration.

Movement by Road

The great growth of movement by road has called for the provision of special ferry services for road vehicles. This has been specially noteworthy in connection with motor cars and motor coaches. The expansion of car-ownership and the relaxation of currency controls and customs procedure have all contributed to an immense increase in the number of accompanied motor cars passing between this country and the Continent. The traffic is mostly concentrated on seaports and airports in the south-east corner of England and, in particular, on Dover. The Harbour Board at Dover has constructed, in recent years, a splendid new terminal for the purpose, and five specially built ships (two belonging to the British Transport Commission, two to the Belgian Marine and one to the French Railways) ply therefrom, together with one smaller British vessel in private ownership.

All these provide drive-on—drive-off facilities, and the larger vessels can take up to 180 motor cars. Road vehicles can also drive on and off the train ferries. Last year, nearly 300,000 motor cars and coaches were handled at the port of Dover. A further 90,000 motor cars passed through the airports at Lydd (Ferryfield) and Southend on short-haul air services across the Channel. All these vehicle ferries virtually link the road system of this country with that of the Continent.

Road Freight

The expansion of international goods traffic by road vehicle between this country and the Continent has not been so spectacular. This is probably due, in the first place, to the satisfactory service given by the well-established train ferry routes. Secondly, there are the complications arising from licensing, construction and use regulations and customs procedures. Further, it may not be attractive financially to the lorry-owner to have his motive power unit—and perhaps his driver—immobilised and, therefore, not earning during the Channel crossing. The trend of development is thus towards using trailers, with the motive power provided by tractors, which remain on each side of the Channel.

We have not hesitated to introduce, through one of our subsidiaries (the Atlantic Steam Navigation Company), a ferry service specifically for commercial road vehicles between Tilbury and Antwerp. A new ship, *Bardic Ferry*, has been placed on this station, and other tonnage is in course of construction. The service is open to all owners of road vehicles—haulage undertakings, whether privately-owned or nationalised, and owners of vehicles on their own account. Commercial road vehicles are also accepted by the Dover—Dunkerque train ferry.

Political Influences

International transport only functions within the framework imposed by governments, particularly insofar as concerns fiscal and immigration regulations. We have, in this country, some way to catch up before we enjoy the conditions that existed before 1914, when Customs and immigration formalities were few. This freedom enabled close margins to be timetabled at the ports between ships and trains. Outwards, on some services, it was as close as five minutes; inwards, 20 minutes sufficed. Today, in general, it is about 30 minutes for an outwards service and some 40 minutes for an inwards. Freight is equally, if not more, important in this respect. There are large groups of transport staff at the ports and inland depots, apart from the Customs officers, engaged in the preparation of

intricate documents, in producing goods and in paying duties on behalf of importers. Their efforts help to fortify the revenue of this country but, viewed against the background of the development of international trade, the picture is not such a happy one.

There is, however, close co-operation between the transport undertakings and H.M. Customs and the Home Office to facilitate the speedy transits of passengers and goods, but the government officers must necessarily act in accordance with our current Acts of Parliament and statutory regulations. In the last few years, under the stimulus of Benelux, the Common Market and other similar arrangements, considerable progress has been made on the Continent: a citizen of France may, for instance, visit eight other countries without a passport. The arrangement whereby Customs officers join an international train on one side of a frontier and examine hand baggage in the compartments while the train is en route to the next stopping station is widely in force. The Rome Treaty, which set up the Common Market, contains several provisions dealing with transport, such as the abolition of discriminatory and protective rates, the reduction of frontier charges and the need to achieve a common transport policy. Under the aegis of the U.I.C., the railways of the six countries concerned have set up an ad hoc working party, to ensure a joint railway approach to these matters.

Iron Curtain Fringe

But, perhaps the greatest political influence at the present time is the existence of the so-called "Iron Curtain." Recently, there is evidence, however, that if the "curtain" has not been raised, transport is at least circulating through the "fringe." Besides through rail passenger coaches which will begin to operate next summer between the West and Moscow, there are others which already work between Paris and Warsaw, Budapest and Bucharest. There is also considerable goods traffic through the "Iron Curtain": for instance, in 1959, a total of 6,445 railway wagons controlled by Interfrigo (the international company for refrigerated transport) passed between west and east. This number is 800 in excess of that for the previous year, a notable increase being in traffic to Czechoslovakia.

Two new large vessels have recently been built for the train ferry route between Trelleborg (in Sweden) and Sassnitz (in Eastern Germany), one being provided by the Swedish Railways and one by the Reichsbahn. There is some goods traffic which passes from Scandinavia to countries in Western Europe by this route. In general, rail and inland waterways have the lion's share of German inter-zonal goods traffic, and road is of lesser importance. The transfer of goods traffic via Berlin remains, however, a little difficult. There is a feeling that loads in road vehicles and barges have an advantage in obtaining a speedier clearance, because they are always accompanied, and personal contact with the controlling officials is more effective than the remote representation applicable in case of rail traffic. No clear views can, however, be expressed because, last year, movement on the inland waterways in Germany (as on others in Europe) has been hampered by lack of water.

Channel Tunnel

Another of the objects of Europe House is to suggest, whenever possible, further practical and functional measures of European co-operation. In this connection, the Channel Tunnel must be uppermost in our minds. The tunnel question has a long history: work was actually started in the eighties. On the English side, a pilot tunnel had been driven for 1½ miles before the activities were suspended at the instigation of the War Department.

A study group, with influential backing, has, however, latterly been re-assessing the economic and technical problems. They have probably made the most exhaustive examination so far undertaken, and we all await their report with interest. It had hitherto been generally felt that, on the technical side, an element of doubt must remain until the first bore under the Channel had been successfully completed but, with the advances in engineering skills and experience, it is safe to say that these doubts have been minimised. On the economic side, the activity would have to bear annually a large sum for the servicing of the capital, and its commercial feasibility must be dependent on the volume of traffic.

Road Traffic Also

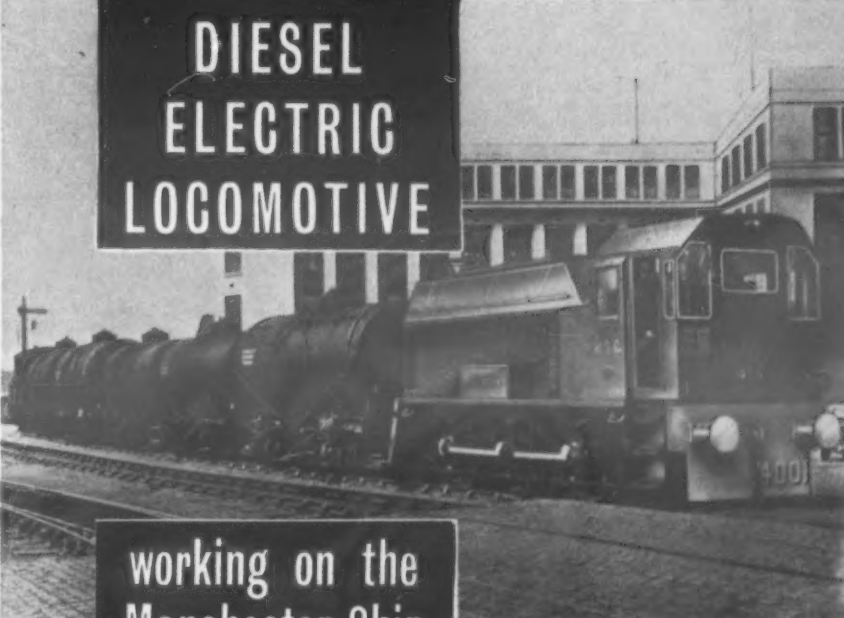
Previous concepts have all been based on a tunnel for rail traffic only. I cannot forecast what the Study Group will propose; in view, however, of technical complexities of ventilation and the commercial need to achieve the greatest traffic capacity, I should not be surprised if the report would still recommend a tunnel for rail traffic, but with efficient means of conveying road vehicles on special wagons, formed into trains running at frequent intervals from one portal to the other.

A tunnel would, indeed, make Great Britain a part of the continent of Europe. It is possible to think of through passenger trains operating from the heart of London to the centre of Paris and of Brussels in little over four hours, with a corresponding speed-up of freight. But it would be wrong to envisage the tunnel purely as an Anglo-French conception: if it came into being, it might well involve a major re-orientation of railway traffic routing in Western Europe, and require the modification of the modernisation plans of certain railway administrations.

Progress in co-ordination is frequently made through the initiative of transport operators acting freely among themselves. The British Transport Commission in some small ways has contributed to this end. I could mention the co-operation between ourselves and the air corporations at Gatwick and the joint arrangements which we have with Silver City for rail-air-rail services between London, Manston and Paris. We are discussing further developments with this company. Transport operators, railwaymen in particular, have an instinctive affinity. Their national backgrounds may differ but when they get together to discuss mutual transport problems these tend to melt. Indeed, those who are concerned in transport, given very little encouragement by their respective governments, will generally combine to promote better communications between their countries and to be an effective influence for good relations and peace.

* Abstract of paper to Europe House. First portion appeared January 30.

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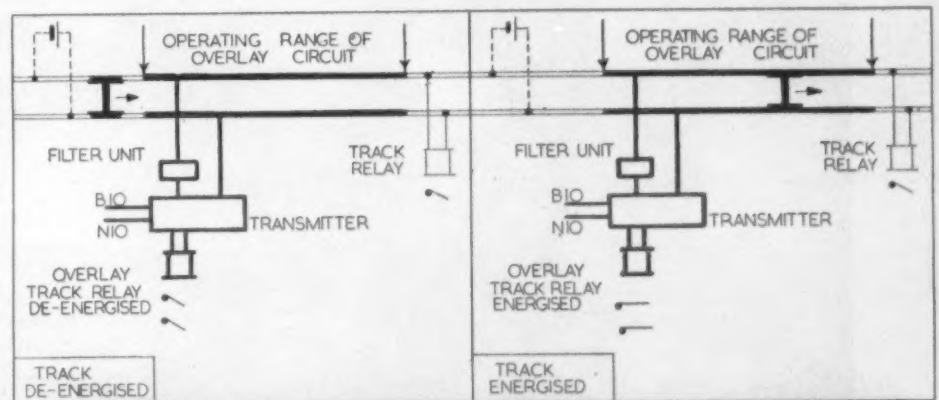
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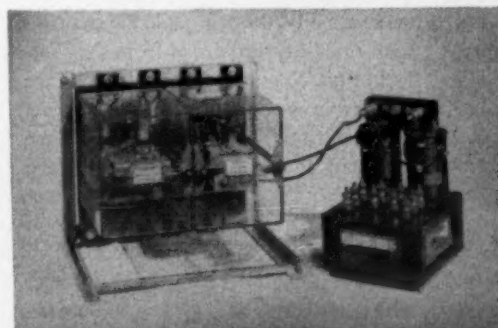


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LETTERS TO THE EDITOR

Alternative to the Victoria Line

SIR,—It is now 10 years since the London Plan Working Party made its report on the desirability of the construction of Route C to become known later as the Victoria Line. In the period of time which has elapsed a number of important social changes have taken place which have had a bearing on the travel habits of Londoners. The number of private cars has doubled, whilst the scooter, which was then a novelty from the Continent, has become firmly established as a cheap run-about, requiring little parking space. During the same period the number of television licences issued has risen from a mere 200,000 to 10 million.

There can be little doubt as to the overall social value to the community of the proposed tube but against this must be set the harsh reality of the cost of operation and construction and the fact that present estimates forecast an annual deficit of £3 millions. Since the impact of private motoring and television viewing has had a marked effect on off-peak travel the problem is how to bring a large measure of the benefit of the Victoria Line without incurring these annual losses. All railways are more or less inflexible, and a self-contained tube is the least flexible of all. During the night its track, costing some £5 millions per mile to construct remains idle. The 70 trains required to maintain a peak-hour service are confined to the system and unlike the rolling stock of the main-line suburban systems cannot be used at weekends to earn revenue on excursion traffic.

Main-Line Tube

The working party which gave first priority to the Victoria Line in its report was in fact called together to study the problems of cross-London rail traffic which might arise when replacement of the existing railway bridges across the Thames falls due. Therefore I suggest that here is an opportunity to meet this eventuality by the construction of a main-line tube connecting the Great Northern line with the Southern Region at Clapham Junction.

Starting north of Finsbury Park this tunnel could follow much of the alignment of the Victoria Line, with stations at Finsbury Park, Kings Cross, Euston, Oxford Circus, Green Park and Victoria, coming to the surface possibly in the vicinity of Longhedge Junction, and providing a direct connection on to the Brighton section, and at the same time a connection on to the Western section of the Southern Region by way of the underpass used by freight trains to Feltham. A spur from Finsbury Park to South Tottenham could connect the tunnel with the existing Eastern Region line to Barking and Southend. In the section southwards from Finsbury Park to Clapham Junction I suggest that the Southern Region third-rail system be used, but northward and eastward from Finsbury Park the Eastern Region overhead system should be used, connecting up with the electrification which will have been completed between Kings Cross and Hertford and North as well as the L.T. and S. line at Barking.

The operation of a service between Victoria and Finsbury Park in the peak hours would meet two of the basic reasons for the Victoria Line, which are the need to provide relief to the Piccadilly Line and the provision of a new service between Victoria and the northern termini via the West End. In the off-peak this service could well be reduced to a Victoria—Kings Cross service which would facilitate the passage of main-line passenger, parcels, and freight trains across London. The electrification of the section between Finsbury Park and Barking, over part of the existing Tottenham and Hampstead Joint Line, would give Tottenham and Walthamstow the proposed link with the West End, in peak hours by connection with the Victoria—Finsbury Park services, and in the off-peak by connection with the Piccadilly Line.

In this way I suggest much of the improvement which could come from a new London Transport Underground line between Walthamstow and Victoria would be combined with an improvement in

the main-line connections between eastern England, the West Riding, and the north-east on the one hand and southern England and the Continental ports on the other hand. Overall this ought to lead to many far-reaching economies which could help offset the deficit which may be incurred on the suburban service.

Improved Connections

At present many freight trains between Harringay, Stratford and Barking on the Eastern Region and the corresponding freight yards on the Southern Region pass by a circuitous route round North London. The new tunnel would reduce the time taken on these journeys by about one half resulting in operating economies as well as speeding up the flow of freight traffic. It should become possible for a train crew, using electric or electro-diesel locomotives to make the equivalent of two trips either way per shift. At the moment the build-up of parcels traffic into the London termini is largely cleared by road conveyance across London, an expensive and timely operation, which, apart from the actual cost, is also a continual source of complaints on account of loss, damage, or delay, to merchandise.

In the summer timetable there is, for example, a through passenger service between York and Bournemouth, which, meandering through the Midlands, takes over eight hours for the journey. By confining such a service to the trunk routes and using the connecting tunnel across London it should be possible to make this journey in six hours. Passengers from the Midlands could join the train at Euston, having used the main line electric service on the London Midland Region. Stops at Woking and Basingstoke could provide connections for the Isle of Wight and the West Country. Indeed there does not seem to be any reason why, with the eventual extension of electrification southwards to Bournemouth and northwards to Leeds, the Kings Cross—Leeds and Waterloo—Bournemouth services could not be combined to provide a Leeds—Bournemouth service operating hourly, and possibly using multiple-unit trains equipped for inter-running between the a.c. and d.c. electrical systems. These, then, are some of the possible benefits at a national level liable to accrue from a new cross-London rail

connection. But what of the benefits to London?

The electrification of the Eastern Region line between Barking and South Tottenham, extended into the tunnel to Finsbury Park, would maintain for those living in Tottenham and Walthamstow the connection to the West End offered by the proposed Victoria Line. Indeed this facility would be very little different since the stations on that line would be in the general area of existing Eastern Region stations. However, apart from providing a comparable connection to the West End, improved services to Barking and Dagenham would also result. During the peak hours a service of five minutes interval could easily be provided since most freight traffic is normally at a standstill. In the off-peak this interval could be widened to 15 or 20 minutes. Many railway operating officers will look askance at such a suggestion, bearing in mind the heavy freight traffic which uses this line. It should also be borne in mind, however, that steam traction would have disappeared long before this plan could become effective. Quadrupling of the tracks at South Tottenham could segregate traffic at that junction, whilst the line to Stratford could no doubt be passed under the Barking line.

Summer Routes

During the summer, on Saturdays and Sundays, it is usual for some nine or 10 trains to use the South Tottenham—Barking line en route to Southend-on-Sea. With electric traction, judging by results elsewhere, this traffic ought to be doubled immediately. If the connecting spur at Seven Sisters is electrified it would then become possible to operate through trains between Enfield Town, Hertford, or Bishop's Stortford and Southend, gaining for the railway excursion traffic which at present mainly goes by road in the absence of a satisfactory rail service. In a southward direction it would also become possible to start Southern Region trains from Finsbury Park to selected resorts on the south coast.

It will be argued that excursion traffic is hardly sufficient reason to construct a costly tunnel. Nevertheless it is from such additional traffic that revenue can be earned to offset losses incurred in providing an intensive peak-hour service. An Underground tube railway is merely an underground tramway, and as such cannot be expected to provide such additional facilities, some of a national character, which could be provided by a main-line tunnel.

Many railway officers are now extolling the future benefits of high-speed electric traction. What benefit, however, will it be to be whisked from Leeds to Kings Cross at speeds of 100 m.p.h. only to spend an hour in making the journey across London to the Southern terminal. Bearing in mind that the private car population may be doubled within the next 10 years I suggest that the Victorian idea that all journeys begin or end in London must be swept aside—else with the development of motor roads and such adjuncts as the Purfleet—Dartford tunnel and bridgeworks at Staines it might be found that the capital expenditure on electrification may not realise the anticipated revenue return. One thing is certain. The public has a distinct dislike for changing trains. A "through" service is always sought after. Here is an opportunity to plan for the future, at the same time providing an immediate solution to some of London's travel problems.—Yours faithfully,

F. W. ROLFE.

3 Bodney Road,
Hackney, E.8.

The Great Central Problem

SIR,—It is, perhaps, of interest to recall that the proposal—made in 1860—for the L. and N.W. and G.N. railways to absorb jointly the M.S. and L. succeeded, there would—for better or worse—be no Great Central problem today.

The terms—generous ones for the M.S. and L.—were agreed by the L. and N.W. directors but refused by those of the G.N.R., and if only the latter could have looked into the future there is little doubt that history would have been written differently.—Yours faithfully,

J. P. BARDSLEY.

Withdean, Brighton.

Goods Vehicle Security

SIR,—I was very interested in the article headed as above in your January 23 issue. It seemed,

however, to favour one device, whereas there are several others approved by insurance companies. The point of this letter, however, is to amplify the last recommendation of the Road Haulage Association concerning the importance of the screening of staff. The best way, in my experience, of effecting this is for the employer to insist on all employees being fidelity bonded by an insurance company. This has a twofold effect. The staff manager, on interviewing a prospective employee, asks if he or she has any objection to being fidelity bonded, and hands over the form for completion. If the prospective employee objects, there may well be something to hide; if there is no objection, the employer then has the benefit of a very thorough investigation into the applicant's integrity, carried out confidentially by the insurers, experienced in this type of work, on completion of which the insurers indicate their willingness or otherwise to accept the risk, though so confidential is the investigation that even if a refusal to insure results, the insurers will never divulge their reasons.

The cost of such insurance is remarkably low, because as a result of the thorough investigations, claims are relatively few. Drivers, mates, packers, loaders, wages clerks and night watchmen should certainly be bonded, but the safest protection of all is what is known as a "blanket" fidelity bond covering all employees, the employer having the benefit of the insurer's investigation service for such employees as he may select—though all will complete forms and none will know whether he is being vetted or not!

Where many hundreds of such bonds have been arranged I cannot recollect a single loss involving dishonesty or suspected dishonesty in the case of firms prudent enough to effect such protection.—Yours faithfully,

E. N. OSBORNE.

Eros House,
111 Baker Street, W.1.

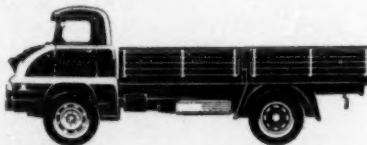
The Editor is always glad to receive letters from readers on subjects germane to the transport industry, but these should be written as concisely as possible. The opinions expressed therein must not, however, be regarded as having editorial endorsement. Where correspondents desire to use a nom-de-plume it is essential that the Editor should be informed of the name and full address of the writer as indication of good faith.

THE BIGGEST COCKTAIL-SHAKER
IN THE WORLD!

Here comes "the biggest cocktail-shaker in the world"—that's the nickname they give to the spanking new blue and red wine tanker recently built on a Thames Trader Articulated chassis to speed bulk deliveries of Martini on their way. Twice a day the tanker pulls alongside the vast new Martini warehouse in the Port of London and, in a matter of minutes, fills up with 2,000 gallons of this popular Italian aperitif. Then it's full speed ahead for the bottling stores where the wine will be racked, roused, sampled and passed

in traditional manner—just as if it had arrived in the old-fashioned hogshead. "Seems a pity, though", said the smartly-uniformed Martini driver from the comfort of his Thames Trader cab, "that all the people who call out 'cheers' on the way can't stop me and have one!" Wine by tanker is yet another example of the ingenious ways in which the Thames range can save time and money in so many fields of trade and industry. If you have a specialised transport problem which has yet to be solved satisfactorily,

why not discuss it this week with your Ford Dealer—his ideas might be worth a lot to your business!



Whatever your transport problem there's a Thames truck or chassis built to build YOUR business. Make your 'tonnage' choice from the 30 cwt. to 10 ton range and choose from the 4 or 6 cyl. engines with an option of petrol or diesel power.

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THAMES TRADERS BY FORD

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COMMERCIAL VEHICLE TEST

Bedford Long-Wheelbase 15-Cwt. Van*



The Bedford CAL, or 102 long-wheelbase van

MORE SPACE : BETTER ACCESS : EASIER LOADING

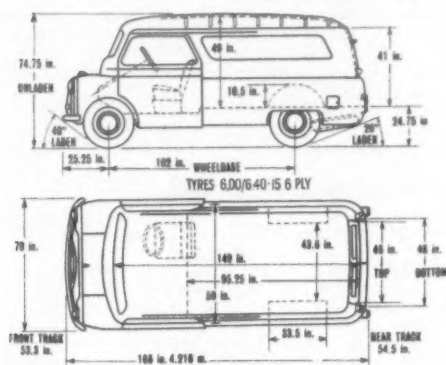
ALREADY ubiquitous, the Bedford light van was given an even wider range of applications with the recent introduction by Vauxhall Motors, Limited, of the long-wheelbase version, while the basic CA design at the same time received a number of detail modifications to provide still greater efficiency and economy. The two types now offered are Model CAS, or 90, with a 90-in. wheelbase and the well-established earlier box dimensions providing 144 cu. ft. of load space (including 9 cu. ft. alongside the driver), and Model CAL, or 102, with a 102-in. wheelbase and

swept turning circle of the 102 being 39 ft. (37 ft. wheeltrack) compared with 36 ft. for the 90. Already the advantage of the additional 1 ft. is being fully exploited in the numerous derivatives of the Bedford van and orders now being placed are divided about equally between long- and short-wheelbase versions. Martin Walter, Limited, has reported a steadily increasing proportion of CAL vans for its well-known conversions and on December 21 last, that company announced the completion of the 10,000th Bedford-based Martin Walter vehicle produced in 1959. Truly a remarkable year's total by a single coachbuilder on a single make of chassis, but one that the Folkestone company is out to beat in the current year, for a 1959 weekly target of 200 Bedford conversions has been raised to 300 a week in 1960.

Power in Plenty

The CAL 15-cwt. van is designed for a gross vehicle weight of 4,200 lb. (1 ton 17½ cwt.) and with a tare weight in licensing order of slightly over a ton, this leaves an ample margin for fuel, equipment, a full 15-cwt. load and driver inside the recommended limit. The vehicle tested carried a dummy load of 14 cwt. and turned the scales at 1 ton, 14½ cwt., of which 14½ cwt. was borne by the front axle. The addition of driver and passenger throughout the test brought the running weight to about the design figure. At this weight the vehicle handled well, having light and accurate steering. There was perhaps a suggestion of large amounts of vertical deflection of the independent front suspension units over rougher surfaces, though this in no way detracted from excellent stability, even when driven fast through poorly surfaced bends or on the rough camber of country roads.

Two versions of the 1½-litre petrol engine are available in the CA van, differing only in compression ratio—6.8 to 1 for standard-grade petrol and 7.8 to 1 for premium grade—and consequent power output. The vehicle tested had the high-compression engine, which develops 55 b.h.p. at 4,200 r.p.m. and 85 lb./ft. torque at 2,400 r.p.m.—and this, in combination with a 5.285 to 1 back axle, proved a lively and flexible unit. With our predilection for four-speed gearboxes with stout floor-mounted control, even in light commercial vehicles,



Drawing showing principal dimensions of the CAL van

body dimensions providing a total of 171 cu. ft. Both types have been given a wider windscreen and narrower side pillars than the earlier van and both have new tubular box-spring driver's seat and a new ribbed roof panel.

Although the CA van is based on main units in high production for the very popular Vauxhall Victor car, in fact it has been developed from the outset as a commercial vehicle, with high-duty front and rear axles, suspension, brakes and so on. The latest version retains the excellent features of earlier examples, such as outside sliding side doors, semi-forward control giving either-side free

TEST RESULTS AT A GLANCE

Vehicle Details
MAKER: Vauxhall Motors, Limited, Luton, Beds.
TYPE: Bedford CAL102 15-cwt. van.
ENGINE: Vauxhall four-cylinder o.h.v. petrol, bore 3¼ in. (79.4 mm.), stroke 3 in. (76.2 mm.), capacity 92 cu. in. (1.508 litres), compression ratio 7.8 to 1; 55 b.h.p. at 4,200 r.p.m., 85 lb./ft. torque at 2,400 r.p.m. (optional 6.8 to 1 compression ratio gives 52 b.h.p. at 4,000 r.p.m. and 82 lb./ft. torque at 2,400 r.p.m.).
TRANSMISSION: Clutch, 7½ in. (194.15 mm.) dia. single dryplate; gearbox, three-speed all-synchromesh with steering-column change, ratios 3.538, 1.653 and 1 to 1 forward, 3.388 to 1 reverse; driveshaft, open tubular with needle roller bearing couplings; rear axle, hypoid gear with semi-floating half shafts, ratio 5.285 to 1.
BRAKES: Hydraulically operated two-leading-shoe drum equipment, total lining area 109.8 sq. in. (708 sq. cm.).
TYRES: 6.00/6.40-15 six-ply rating.
WHEELBASE: 8 ft. 6 in. (2.59 m.).
WEIGHT: 1 ton 0½ cwt. (1,029 kg.) in licensing order.
PRICE: Standard van complete in primer £477.

Test Results
ROUTE: Standard route in Kent and Surrey.
CONDITIONS: Cold with heavy rain.
RUNNING WEIGHT: 1 ton 14½ cwt. (1,765 kg.) plus crew of two.
PAYLOAD: 14 cwt. (711.2 kg.).
FUEL CONSUMPTION: (i) Continuous running over 15 miles 30 m.p.g. (10.62 km./litre) at 27.2 m.p.h. (43.5 k.p.h.) average speed. (ii) Over 7 miles making four stops per mile 22.6 m.p.g. (9 km./litre).
GROSS TON/M.P.G.: 51.9 (18.7 tonnes/km./litre).
PAYLOAD TON/M.P.G.: 21 (7.55 tonnes/km./litre).
MAXIMUM GRADIENT CLIMBED: 1 in 4½ (23.5 per cent).
TURNING CIRCLE: 39 ft. (11.9 m.) sweep, 37 ft. (11.3 m.) wheeltrack.
ACCELERATION: Averages of four runs, two in each direction; through gears: 0-20 m.p.h. 4.9 sec. 0-30 m.p.h. 11.4 sec. 0-40 m.p.h. 21.4 sec.; in top gear: 10-20 m.p.h. 11 sec. 10-30 m.p.h. 24 sec.
BRAKING: Because of very wet roads no measured stops made; consistent 60 per cent Don meter readings made with wheels at point of locking.
ESTIMATED TOP SPEED: Over 60 m.p.h. (96 k.p.h.).
OVERALL FUEL CONSUMPTION: For 80 miles of mainly hard driving including 20 miles in London suburbs, numerous stops and much gear work in various tests, 23.8 m.p.g. (860 km. per 100 litres).

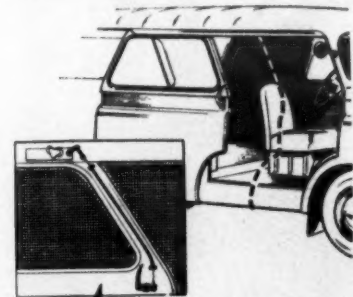
access for the driver, full-width rear doors and a separate chassis providing great latitude in the choice of special types of bodywork. Other features of the van body include all-steel welded construction—double-skinned up to waist height, resin-bonded laminated wood floor, floorline unobstructed by bulkheads and detachable front-end sheet metal for engine access.

Longer Body and Wider Doors

The long-wheelbase van gets its 20 per cent extra space solely from an increased length of 1 ft. and the whole of the extra length has gone into

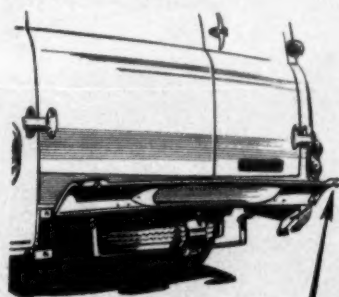
we looked for some shortcoming in performance of the Bedford with its three-speed transmission and steering-column gear lever. None was apparent, due largely to the great flexibility of the engine, but also to the well-matched gears and the ease of selecting first gear in the all-synchromesh gearbox when this was advantageous on steep gradients or in traffic checks.

Acceleration performance was timed in a series of runs over a level section of the Great Chertsey Road, in which the van could be accelerated from rest to 20 m.p.h. in just under 5 sec. and to 30 m.p.h. in under 11½ sec. It took an average



SAFETY CATCH DETAIL

Drawing showing detail of the three-position sliding door and, right, the spare-wheel carrier under a hinged flap



HINGED PANEL

the sliding doors and openings. This provides the great advantage of very easy access to the main body of the van from the side doors. By means of a safety catch linked by cable to the door handle, the doors can be held in any one of three positions, compared with only two positions of the narrower door of the short-wheelbase van. As with the smaller version, the CAL is offered in both 10-12 and 15-cwt. forms, in the latter case fitted with heavy-duty rear springs and tyres.

Extra length has done little to detract from the excellent manoeuvrability of the vehicle, the

of 21.4 sec. to go from rest to 40 m.p.h. In top gear the loaded van could be slowed down to 10 m.p.h. without the onset of roughness and would accelerate smoothly from this low speed to reach 20 m.p.h. in 11 sec. and 30 m.p.h. in 24 sec. Performance in the hill sections also left little to be desired; top-gear runs were made comfortably on the gradient of Purley Way past Croydon Aerodrome (after a standing start) and also over Worms Heath. On Succombs Hill an easy start was made on the 1 in 5 gradient over the railway bridge and the vehicle was just nursed away from rest, with

(Continued on page 16)

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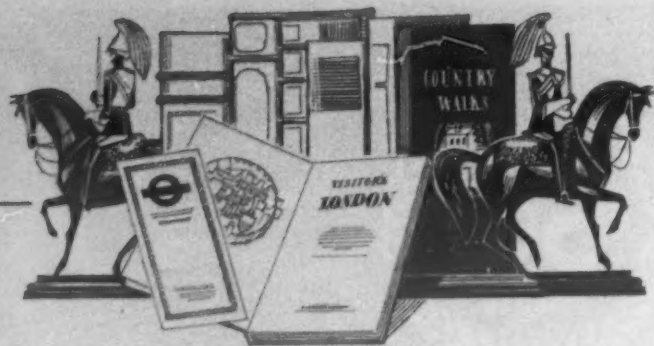
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NEWS FROM ALL QUARTERS

Heated Road in Newcastle-under-Lyme

A 1 in 10 bank in Friars Street, Newcastle-under-Lyme, Staffordshire, has been fitted with electric heating cables under the road as an experiment. The road is particularly difficult to negotiate in icy weather.

Edgware Station Site Available

A frontage of 200 ft. on Station Road, Edgware, now occupied by the disused L.N.E.R. station, is being offered for development by the British Transport Commission as shops with offices or flats above. The station yard, which includes a coal depot, has latterly been used by B.R.S. as a parking site for trunk vehicles.

Another Record Year for E.C.G.D.

Business insured by the Export Credits Guarantee Department in 1959 under its commercial policies was another record; declarations of shipments, at £638.2 million, were over 20 per cent above the previous record of £520.6 million in 1958 and showed an increase of over 30 per cent on the figure (£485.4 million) for 1957.

More Car Parks at Underground Stations

London Transport is to construct or enlarge 10 more car parks at suburban Underground stations. The second biggest car park at Morden station is to be increased in capacity from 286 to 411 cars, while a new car park at Amersham Station (Metropolitan Line) would hold 100 cars. Other new car parks will be at Chalfont and Pinner Metropolitan Line stations for 65 and 30 cars, and at Neasden (Bakerloo) for 70 cars.

Staines—Basingstoke Motorway Relief

Preliminary surveys are being conducted along the tentative route of the first 33-mile section of the London—Exeter radial motorway by-passing Staines, Sunningdale, Bagshot, Camberley and Basingstoke. The new motorway would commence at or near the end of the present Great Chertsey Road in the Hanworth—Sunbury area, and closely parallel the A30 road on the south-east side, terminating at Kempshott, just beyond Basingstoke.

Partial Stoppage on Underground

The token 24-hr. strike of its members staged as an unofficial demonstration by the National Union of Railwaymen on Monday this week had a paralyzing effect on the Underground system, whereas the main-line suburban systems were virtually unaffected. The situation deteriorated slightly during the day; by the evening peak the Central Line was operating only 36 trains out of 85, the District 22 out of 82, the Northern 11 out of 100, and the Piccadilly 12 out of 84 (no service between Acton Town and Uxbridge). There were no trains (save for some isolated early journeys) on the Metropolitan, Circle, Hammersmith and City, Bakerloo, and Northern City lines, but the minor East London Line had a full service. An influx of cars caused severe traffic congestion throughout the day and a good deal of bus mileage was lost.

Last Sheffield Trams

It is now confirmed that the last tram will run in Sheffield early in October when the final stage of the changeover from trams to buses in the city transport system will take place.

Stations Closing

On and from March 7 passenger-train service will be withdrawn from Claxby and Usselby Station situated on the Eastern Region between Lincoln Central and Grimsby Town. Passenger service will be withdrawn from Ryhope East and Osmondthorpe Halt and from Norton-on-Tees Station on the North Eastern Region on the same date.

Pickfords Crane Visits Channel Isles

A 25-ton Coles diesel-electric lorry-mounted mobile crane was recently shipped, in two parts, from London to Guernsey. It was a Pickfords heavy-haulage unit, and was being used in the erection of a sea-water distillation plant, the first of its kind in a temperate zone. It will be a safeguard against drought affecting the vital horticulture industry.

Diesel Railbus Popularity

A year ago British Railways introduced a diesel railbus service on the line between Tetbury and Kemble, Gloucestershire. During the first year of operation 12,800 passengers used the vehicle from Tetbury. This total is two and a half times greater than the number of passengers using the former steam service. Mr. David Donnithorne, station-master at Tetbury until he left for a B.T.C. work study course, stated that he thought the service had been a great success.

Christmas Road Deaths Inquiry

The Christmas death roll on the roads of England and Wales is now known to have been 155, eight of those originally reported as seriously injured having since died. Of the 145 fatal accidents which occurred in the four days December 24-27, 109, or 75 per cent, occurred during the hours of darkness. Eighty of these, or 55 per cent, happened between 10 p.m. and 6 a.m. The Minister of Transport has called for a full analysis of all Christmastide fatal accidents from the Road Research Laboratory.

Census of Motor Vehicles

At the end of September, 1959, the number of vehicles in use on the roads of Great Britain rose by over 700,000 to 8,606,047. Service vehicles and those of Government departments are not included. Goods vehicles over three tons in unladen weight numbered 208,643 (179,462), those between 1½ and 3 tons 379,653 (395,594) and those under 1½ tons 737,320 (693,442). The decline in the intermediate (1½-3 tons) category was confined to petrol-engined vehicles, as there was a rise from 77,520 to 85,761 in the number of diesels included. In the smallest size category (under 1½ tons) the number of diesels rose from 7,254 to 9,193. Total goods vehicles were 1,325,616, total hackney vehicles over eight seats were 77,099 (including 3,212 trolleybuses). Private cars registered an increase from 4,548,530 to 4,965,772.



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COMMERCIAL AVIATION

B.O.A.C. Boeings to be Modified

WESTLAND BUYS FAIREY AVIATION

DELIVERY to the British Overseas Airways Corporation of the first of its fleet of 15 Boeing 707-420 jet air liners is being held up while the manufacturer incorporates modifications to the tail which the Air Registration Board had requested before it was prepared to recommend validation of the aircraft's certificate of airworthiness. Changes in the aircraft include an extension of the vertical fin, the inclusion of a small ventral fin and certain changes to the rudder boost and the yaw damper.

Sunday Services in Scotland

British European Airways has asked that the airports at Wick, Grimsetter (Orkney) and Sumburgh (Shetland) should be opened this summer to make possible a Sunday service from Glasgow via Aberdeen. It is reported that some Inverness interests feel that that town should also be served on Sundays if others are to be given that facility.

Boeing European Stores Pool for Paris

A European pool store for Boeing 707 jet air liner spare parts is being established at Orly Airport, Paris. The location was considered the best site from which to adequately serve the needs of all Boeing operators. The store is expected to open this spring and will operate on the same round-the-clock basis as the spare parts store at Idlewild.

B.O.A.C. Chairman to Relinquish Office

It has been announced by the Minister of Aviation, Mr. Duncan Sandys, that the chairman of the British Overseas Airways Corporation, Sir Gerard d'Erlanger, does not wish to continue after his appointment expires in April, 1961. The Minister has also accepted the resignation of Sir George Cribbitt, the deputy chairman, who is giving up for reasons of health.

Boeing 720 Reaches Mach .95

The Boeing 720 intermediate-range jet transport is reported to have successfully completed flight tests to Mach .95. This was equivalent to more than 650 m.p.h., at the altitude at which the tests were conducted. Two of these jets are now carrying out an intensive flight test programme and a third will join them in March. More than 40 flight hours have now been completed.

12,500-lb. Thrust Avon Approved

The British Air Registration Board has given full normal category approval for civil operation to the Rolls-Royce Avon RA29, Stage 6, Mark 531, 12,500-lb. thrust average performance (12,200-lb. thrust guaranteed minimum). The Avon RA29 Stage 6 powers the Sud-Aviation Caravelle 6, four of which have already been ordered by Sabena. Deliveries of these engines begins in the summer of this year. The Avon RA29 Stage 3 of 11,700-lb. thrust are already being delivered for the Caravelle 3.

More U.A.L. Jet Service Dates

The first Douglas DC8 jet service for Philadelphia will be inaugurated on February 16 by United Air Lines. The initial schedules will provide nonstop jet service between Philadelphia and Chicago, and one-stop service to and from San Francisco. On February 4, United was to begin its second daily round-trip jet service between Chicago and New York. The first U.A.L. jet service for Seattle-Tacoma will be inaugurated on March 1 with three daily flights from Seattle-Tacoma along the Pacific coast to Los Angeles. One flight will be nonstop and the other two will call at San Francisco.

Date for I.A.T.A. Traffic Conferences

The special meeting of the International Air Transport Association traffic conferences to consider international fares over many world routes after April 1 next will begin in Paris on Tuesday, February 23. Mr. V. H. L. Duboucq, vice-president, K.L.M. (Royal Dutch Airlines), will be chairman. The meeting will resume formal discussion of new fares patterns over the North and Mid-Atlantic, from Europe to Africa and to the Far East, and Australasia, within the latter areas and across the Pacific. The Paris meeting will not be concerned with cargo rates or with fares between Western Hemisphere countries across the South Atlantic, and within and between Europe and the Middle East, agreed at Honolulu.

I.C.A.O. Navigation Meeting

An air navigation meeting for the African-Indian Ocean region began in Rome on January 26, under the auspices of the International Civil Aviation Organisation. The major purpose of the meeting is to revise the regional plan for facilities and services necessary to ensure that international flight is carried on safely and regularly. The Rome meeting is the first air navigation meeting to be held for the African-Indian Ocean region since jet air liners began to fly regularly through the area, and the needs of these new machines will be taken into account in revising the regional plan. Member states of I.C.A.O. geographically located completely or partially within the African-Indian Ocean Region are: Australia, Ceylon, Ethiopia, Ghana, Guinea, India, Liberia, Morocco, Sudan, Tunisia, Union of South Africa, and United Arab Republic.

Westland Buys Fairey Aviation

The directors of Westland Aircraft, Limited, and of the Fairey Co., Limited, reached agreement on February 2 for the sale by the Fairey company to Westland of the issued share capital of Fairey Aviation, Limited, which operates all Fairey's United Kingdom aviation interests. The consideration will be the issue to the Fairey company of 2 million Westland shares of 5s. each, credited as fully paid (which will not rank for the forthcoming issue by way of capitalisation of reserves or the final dividend for the period ended September 30, 1959) and a cash payment of approximately £1.4 million. The Fairey company will distribute to its own shareholders one Westland share for every two Fairey shares held, having arranged to make the necessary adjustment by purchase. The Minister of Aviation has assured the companies that he will regard the new combination as constituting a specialised helicopter group eligible for Government support. Westland has informed the Minister that it intends to carry on the Rotodyne project, and arrangements have been made for the development contract to be signed forthwith. With the acquisition of Fairey Aviation the Westland Group, which already includes Bristol Aircraft's helicopter activities and Saunders-Roe, will comprise virtually the whole of the British helicopter manufacturing industry.

PRESIDENT-DESIGNATE OF U.I.C.



John Ratter

Mr. J. RATTER, C.B.E., B.Sc., M.I.C.E.

Since its inception in 1922 the presidency of the International Union of Railways had always been occupied by a French representative until December, 1958, when, at the annual meeting, Dr. Heinz Maria Oeftering, chairman of the German Federal Railway, was elected president of the U.I.C. for a two-year term. When he relinquishes office on December 31 he will be succeeded by Mr. John Ratter, who has, since October, 1958, been a full-time member of the British Transport Commission. Educated at St. Peter's School, York, and Durham University, Mr. Ratter began his railway career in 1929, as a pupil of the then engineer of the North Eastern Area, London and North Eastern Railway. After holding several appointments with that company he joined the London Passenger Transport Board in 1936 as an assistant in the permanent way department. In 1938 he returned to the L.N.E.R. as assistant district engineer, Sheffield. Mr. Ratter served throughout the war with the Royal Engineers in France, Africa and Italy, and also at the War Office. He became Deputy Director of Transportation, C.M.F., with the rank of colonel and responsibility for railway reconstruction in the Italian campaign. He was mentioned in dispatches in 1942, awarded the O.B.E. and Legion of Merit (U.S.A.) in 1944 and the C.B.E. in 1945. On demobilisation he rejoined the L.N.E.R. and was appointed district engineer, Guide Bridge, becoming in 1946 permanent way assistant to the engineer, Kings Cross. In 1947 he joined the L.P.T.B. as civil engineer (maintenance), with responsibility for the maintenance of all railway and tramway permanent way and all rail and road service properties of the Board. This position he retained from January 1, 1948, under the London Transport Executive, until his appointment in July, 1951, to the Railway Executive as chief officer, engineering (works). In October, 1953, Mr. Ratter became chief officer (civil engineering), British Transport Commission, and two years later became technical adviser to the Commission, from which position he was appointed a member of the B.T.C. He is at present senior vice-president of the U.I.C., a past president of the Permanent Way Institution and his contributions to the proceedings of technical societies include his paper read in 1948 to the Institution of Civil Engineers, "Recovery, Repair and Distribution of Permanent Way Material," which was awarded the Crampton Prize.

IN PARLIAMENT

Railway-Owned Land

B.T.C. WANTS TO DEVELOP IT

THE British Transport Commission has asked the Minister of Transport to introduce legislation which would give it power to develop unwanted property and to let it on a commercial basis, facilities which it is denied under the Transport Act, 1947. The matter is under consideration by the Minister. This came out in an adjournment debate on the matter raised by Sir WAVELL WAKEFIELD. Mr. JOHN HAY, the Ministry of Transport Joint Parliamentary Secretary, who replied to the debate, outlined the prohibitions placed on the B.T.C.—it cannot develop land by building offices or shops on it, and letting the buildings out at rack rents. It cannot even carry out hybrid development, i.e. development partly for its own use and partly for letting, except where authorised by its annual Act of Parliament. Forthcoming proposals regarding Euston came into this category.

There was no doubt that if the Commission were, in general terms, given liberty to do these things—the development of land and letting it at rack rents and the carrying out of hybrid developments—it would be of benefit to the Commission in a number of ways.

Three Gains to the Commission

Firstly, the current level of the Commission's income from the lettings of its properties was £5 million. It was £2 million in 1948 and had risen by £3 million since then. If the Commission could develop on the hybrid basis it estimated that it could increase its income from some of its sites by between twice and five times what it was getting from ground rent at the moment. That would obviously be a financial benefit.

Economically, there would be a benefit. It would certainly improve the Commission's capital position, because the book value of the land which it held but did not need for its operational requirements would come more into line with the real value. Thirdly, there would be some planning advantages. If the Commission were in a position to arrange its own development, to let out that part which it wished to develop and to retain other parts for its operational purposes, it would be much easier to marry the two. The Commission thought that if it had these general powers it would obtain planning permission from the local authorities much more easily than a private developer would be able to do.

At the end of 1958 the land and buildings not in operational use were valued at £28,335,767—a "pretty sizeable chunk of land"—and with the closure of uneconomic facilities it was increasing. The B.T.C. had made it perfectly clear that it would be much happier if it could develop its own property. The snag was that it would require capital over and above that earmarked for modernisation, and all development was inevitably of a speculative character.

The debate had earlier hinged about the future of Marylebone station and goods yard. Mr. Hay said that this was really a matter of day-to-day management and thus not within his purview, but he understood that the B.T.C. intended to redevelop the whole of the goods yard (Lisson Grove), principally as a main parcels concentration depot. This was a London Midland Region project but it was not yet in the B.T.C. programme of work. A much fuller reconstruction of the passenger station was planned but these proposals were not so far advanced as those for the goods yard. An office block for Commission staff was envisaged. The Commission did not envisage that Marylebone would become a less busy station. It thought that the amount of traffic would increase considerably as the years went by.

Parking Meters, Not Discs

Mr. E. MARPLES said he was now in no doubt that parking meters would be more effective in Central London and other similar areas than the parking disc system, but he would willingly consider what help he could give if a local authority wished to experiment with disc control in less critical conditions.

Traffic Signs Committee

Mr. J. LANGFORD-HOLT asked the Minister of Transport whether he would widen the terms of reference of the Advisory Committee on Traffic Signs for Motorways to include consideration of all road signs, and not only road signs on new motorways. Mr. E. MARPLES: I will certainly consider my hon. Friend's suggestion.

On-the-Spot Penalties and Traffic Wardens

The Home Secretary, Mr. R. A. BUTLER, told the House that legislation introducing the ticket system for certain traffic offences would, it was hoped, be brought up in the current session. The system would be operated experimentally in London in the first place. The introduction of traffic wardens would also be proposed in legislation during this session.

Tower Bridge and Traffic Delays

Discussions have taken place between the police, the London Transport Executive, the Road Haulage Association, British Road Services, the Corporation of London, and the Port of London Authority on how the interferences to road traffic caused by the opening of Tower Bridge to shipping may be minimised, said the Minister of Transport. He added that many suggestions have been made. Every single suggestion is now being examined closely. He disclosed that Tower Bridge was closed against road traffic 2,057 times in 1959, i.e. five to six times a day on the average.

Victoria Line

A battery of M.P.s fired questions to the Minister of Transport seeking a statement about the Victoria Line, in view of the recent report of the London Travel Committee. After a good deal of prodding, Mr. E. MARPLES committed himself to the observation that "unless this country has an efficient public transport system it is clear that it will be overwhelmed by the number of cars." He hoped to be able to make a statement soon. Mr. A. ALBU commented that this was the third report favourable to the construction of the line. Had the Ministry still no plans to deal with the situation?

Road Vehicle Fitness

Existing requirements as to the fitness of goods vehicles are sufficient and achieved a great deal of good, said Mr. ERNEST MARPLES. He was answering Mr. G. DARLING, who wanted stricter regulations and the withholding of licences from operators who did not have adequate garages or facilities for proper maintenance. He suggested that quite a number of accidents was caused

(Continued on page 14)

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NEW SHIP FOR CHANNEL ISLANDS SERVICE

Launch of "Caesarea" at East Cowes

THE first of two new passenger ships for British Railways Channel Islands services was launched at East Cowes on January 29, when she was named *Caesarea* by Lady Coutanche, wife of the Bailiff of Jersey, Sir Alexander Coutanche. The name, chosen by Jersey, was that used by the Romans for the island. The vessel, which is being built like her sister ship by J. Samuel White and Co., Limited, is due for delivery next September. Almost identical, the two ships will be the largest ever built for the Channel Islands routes and the biggest which can be handled at St. Helier. It is, moreover, intended that they should bring a new standard of one-class comfortable travel to the services. A big problem on the older, smaller ships—designed when the annual holiday rush to the Channel Islands was much less intense—is that during peak periods there is too little sheltered seating for daylight trips and insufficient sleeping accommodation for night crossings. The new ships will have 66 berths in private cabins and sheltered seating for all passengers carried; except in the restaurant and buffets this will be of reclining type. The Southern Region of British Railways expects that the use of these new, economical ships will help it to eliminate the present heavy financial losses on the Channel Islands services. Their ordering was, as Sir Philip Warter, chairman of the Southern Area Board, reminded those present at the luncheon following the launching, described

the vessel to navigate stern first when entering port, will be operated by rotary vane-type steering gears of A.E.G. manufacture, the power being supplied by hydraulic pumps driven by electric motors. Control from the bridge in each case will be electric.

Steam Turbines

The propelling machinery will comprise single-casing steam turbines, to the latest Pametrada design. Each turbine will drive a three-bladed Novoston alloy propeller through articulated locked train double reduction gearing. The turbines are of impulse type with ahead and astern elements incorporated on a single-rotor shaft. Steam for the main machinery will be supplied by two Foster Wheeler oil-fired watertube boilers fitted with superheaters and designed for a steam pressure of 350 lb. per sq. in. and a temperature of 650 deg. F. at the superheater outlets. Air for combustion will be supplied by steam turbo-driven fans via ducting to the casing boilers, which are arranged in a single open stokehold. Steam for domestic services, bunker heating, etc., and a supply to a distiller, providing make-up feed for the main boilers, will be supplied by Spanner boilers working at a pressure of 60 lb. per sq. in.

Direct current electricity supply at 225 volts will be provided by three main 225-kW diesel-driven generating sets and there will be a 50-kW emergency diesel-driven generator, also two motor



An artist's impression of one of the new ships for the Channel Islands services

by Sir Brian Robertson, chairman of the British Transport Commission, as "an act of faith." The vessels were costing some £1,500,000 each and it was obvious that if the best use was to be made of them and of the *St. Patrick* that the services would have to be recast. They were grateful to the States of Jersey for the work at St. Helier, which would make possible the handling of the ships. Proposing "The Ship and Her Sponsor," the chairman of J. Samuel White and Co., Limited, Sir James A. Milne, had pointed out that it was the first ship his company had built for the British Transport Commission as it was at present constituted.

Principal Characteristics

The principal characteristics will be as follows:

Length O.A.	321 ft.
Length B.P.	302 ft.
Breadth moulded	51 ft.
Breadth moulded to main deck	18 ft. 9 in.
Deadweight	about 640 tons on a loaded draft of 13 ft. 6 in.
Gross registered tonnage	3,800 approx.
Speed	20 knots

There will be two continuous decks, main and upper, with a promenade deck, a boat deck and a navigating bridge deck above the upper deck. The lower deck is arranged forward and aft of the machinery spaces.

The vessel will be of modern appearance, with a raked stem, a rounded stern, two tripod masts and a single funnel designed specially to ensure that the products of combustion are swept clear of the decks in all weather conditions. The balanced rudder aft and the bow rudder, fitted to enable

alternators for supply to fluorescent lighting. Denny-Brown activated fin ship stabilisers will be installed to reduce rolling, thus providing greater comfort for the passengers.

Passenger Amenities

Particular attention has been paid to catering equipment, which will be of the modern electric type, for service to restaurant, self-service buffet, bars; and the public rooms have been specially considered to provide modern decor and ease of maintenance. The internal decorations and furnishing is being carried out for the builders by Trollope and Sons (London), Limited, to designs prepared by the B.T.C. architect, Dr. F. F. C. Curtis. Thermotank heating and ventilation is being provided for all passenger and crew accommodation.

Accommodation will be one class only, and the vessels will have a Ministry of Transport certificate for 1,400 passengers. In addition to a number of private cabins, seating for all passengers carried will be provided. Special consideration has been given in this vessel to ensure maximum precaution against the hazard of fire, in excess of the present statutory requirements of the International Convention for Safety of Life at Sea. Not only has a Grinnell sprinkler system been fitted but linings, divisional bulkheads, etc., are largely of incombustible material. A complete fire detection and alarm system will be installed. Lifesaving apparatus includes six glass-fibre lifeboats with built-in buoyancy, designed and constructed by the shipbuilders; two will have diesel engines.

FORTHCOMING EVENTS

Feb. 8.—I.R.T.E. (West Regional). John F. Moon, "Transport Developments in U.S.A. 1957." Liverpool Architectural Society, Bluecoat Chambers, School Lane, Liverpool, 1. 7.30 p.m.
Inst.T. Brancor Memorial Lecture. Air Marshal Sir Denis H. F. Barnett, "R.A.F. Transport Command." 68 Portland Place, W.1. 5.45 p.m.
Feb. 9.—Inst.T. (Yorkshire). R. A. Bell, "The Port of Manchester." Griffin Hotel, Boar Lane, Leeds, 1. 6.30 p.m.
P.W.I. (York). G. E. Bedford, "Abtut Tools and Equipment." Railway Institute, York, 6.45 p.m.
Inst.T. (Edinburgh). P. C. Somerville, "Coastal and Short Sea Shipping." 23 Waterloo Place, Edinburgh, 5.30 p.m.
Inst.T. (North Staffs). Geo. Dow, "The Railway Modernisation Scheme as it affects the London Midland. Grand Hotel, Hanley, 6.30 p.m.
R.Ae.S. E. C. Carter, "Model Testing in the Aircraft Research Association Co-operative Wind Tunnels." Library, R.Ae.S., 4 Hamilton Place, W.1. 7 p.m.
I.Mech.E. (Auto). T. French, "Construction and Behaviour Characteristics of Tyres." 1 Birdcage Walk, S.W.1. 6 p.m.
Feb. 10.—Inst.T. Southern. Dr. W. Sutherland, "C.A.V.'s Contribution to British Railways Modernisation Programme." Harbour Board Offices, Southampton, 5.45 p.m.
R.C.T.S. (Lanes and N.W.). Dr. J. R. Hallick, "The North Staffordshire Railway." Douglas Hotel, Fennel Street, Manchester, 7.15 p.m.
I.R.T.L. H. Luff, "Mexican Tramways." Fred Tallant Hall, Drummond Street, N.W.1. 7 p.m.
P.R.D.G. T. A. Germaine, "Function and Duties of a Public Relations Officer of the B.T.C." Peterborough Technical College, 6.45 p.m.
I.R.E. (West Midlands). I. W. Merry, "Electronic Reading." Wolverhampton College of Technology, 7.15 p.m.
I.R.T.E. (South Eastern). R. B. Robinson, "The Development of Automatic Transmission for Commercial Vehicles." Saracen's Head Hotel, Ashford, 7.30 p.m.
Riv.S.A. S. A. Clayton, "Some Aspects of the Short Sea Trade." London School of Economics, Houghton Street, W.C.2. 6.15 p.m.
Feb. 11.—L.M.R.L.D.S. P. G. Masefield, "Air Transport." Clerical Staff Dining Club, Cardington Street, N.W.1. 5.45 p.m.
R.C.T.S. (Bristol). B.T.C. Films, Grosvenor Hotel, Bristol, 1. 7.15 p.m.
I.R.T.L. Films by R. Stevens, "British Tramways." V.M.C.A., Mount Pleasant, Liverpool, 7 p.m.
I.R.S.E. E. R. Gentles, "Layout and Circuits for Electric Point Operations." R. J. Quin, "Primary Cells, Problems, Types and Application." D. Peverley, "Mechanical Point Layouts." Signalling School, Toft Green, York, 5.30 p.m.
Inst.T. (Northampton). Films, Corporation Transport Recreation Hall, Northampton, 7 p.m.
Feb. 12.—I.T.A. Social evening, Broadway (Lower) Hall, Hornforth.
Inst.T. (E.M.). Prof. A. G. Pool, "The Subsidising of Public Transport." City Transport Offices, Lower Parliament Street, Nottingham, 6.30 p.m.
I.R.T.L. P. W. Lawson, "How a Tram Works." Exchange and Engineering Centre, Birmingham, 7 p.m.
Inst.T. (Northern). F. C. Margetts, Royal Station Hotel, Newcastle, 7 p.m.
R.Ae.S. F. E. J. Britten, "Choice of Aerial Vehicle." R.Ae.S., 4 Hamilton Place, W.1. 7 p.m.

Feb. 13.—R.C.T.S. (S. of England). Branch Annual Reunion and Dinner, "The Good Companions," Leigh Road, Eastleigh, 6 p.m.

In an endeavour to record the ever-increasing number of meetings of bodies interested in transport a considerable number of abbreviations and contractions is now being used. These are set out below and will be repeated at intervals.

A.F.—Aviation Forum; B.I.R.E.—British Institution of Radio Engineers; E.R.S.—Electric Railway Society; I.C.E.—Institution of Civil Engineers; I.E.E.—Institution of Electrical Engineers; I.N.A.—Institution of Naval Architects; I.R.S.E.—Institution of Railway Signal Engineers; I.R.T.E.—Institute of Road Transport Engineers; I.T.A.—Industrial Transport Association; I.Loco.E.—Institution of Locomotive Engineers; I.Mar.E.—Institution of Marine Engineers; I.Mech.E.—Institution of Mechanical Engineers; I.Nav.—Institute of Navigation; Inst.H.E.—Institution of Highway Engineers; Inst.P.—Institute of Petroleum; Inst.T.—Institute of Transport; Inst.Traf.A.—Institute of Traffic Administration.
L.M.R.L.D.S.—London Midland Region Lecture and Debating Society; L.R.T.L.—Light Railway Transport League; N.T.M.R.C.—Norbury Transport and Model Railway Club; O.S.—Omnibus Society; P.R.D.G.—Peterborough Railway Discussion Group; P.V.O.A.—Passenger Vehicle Operators Association; P.W.I.—Permanent Way Institution; R.Ae.S.—Royal Aeronautical Society; R.C.H.S.—Railway and Canal Historical Society; R.C.T.S.—Railway Correspondence and Travel Society; R.H.A.—Road Haulage Association; R.S.A.—Royal Society of Arts; Rly.C.—Railway Club; Rly.S.A.—Railway Students Association; S.E.—Society of Engineers; S.L.S.—Stephenson Locomotive Society; S.R.L.D.S.—Southern Region Lecture and Debating Society; S. Wales and Mon. R.D.L.D.S.—South Wales and Mon. Railway and Docks Lecture and Debating Society; T.R.T.A.—Traders Road Transport Association; W.R.L.L.D.S.—Western Region London Lecture and Debating Society.

Southern Industrial Rubber, Limited, the southern distributor of Goodyear Industrial Rubber Products, has opened new premises at 7a The Green, West Drayton, Middlesex, where stocks of Goodyear hose, V belts, transmission belting and fendering will be carried to serve customers in West London, Middlesex, Buckinghamshire, Berkshire and the northern parts of Hampshire. South London and the remaining south-eastern counties will continue to be supplied from the existing South Norwood premises. Telephone number of the new branch is West Drayton 4343.

An entirely new yarn-dyeing technique has just been employed by Francis Webster and Sons, Limited, of Arbroath, for tarpaulin sheets for transport vehicles. This technique involves the use of acids instead of the alkali agents normally required for dyeing cellulose materials. A bright turquoise shade with very high light and wet fastness has been achieved. The yarn will be woven into Websterweave linen tarpaulin canvas, which was specified by a world-famous group for use on its transport fleet. The shade was specially chosen to fit in with the lorry colour schemes.

AERIAL SURVEY DEVELOPMENT

Applications of Hunting Hi-Spec

PHOTOGRAMMETRY AND ELECTRONIC COMPUTATION

WHILE almost 100 miles of road was surveyed from the air in 1938-39 for one county authority alone, at that time the use of aerial survey was not widespread for engineering work and only in certain confined cases were its full possibilities realised. Since 1945 there has been a great and urgent demand for survey work in preparation for many postwar projects, notably housing, railway modernisation and highway planning. In all these spheres time can be of great importance and because of this it was often necessary to employ the fastest survey methods while still maintaining the proper standards of accuracy. Aerial survey became accepted for all but the smallest projects where traditional ground methods still proved more economical and convenient.

The most pressing current problem in the United Kingdom is the planning, design and construction of new highways to carry the traffic which is increasing at an alarming rate. The Ministry of Transport, county authorities and consulting engineers have employed aerial survey for many years for the provision of the basic plans on which they work, but at this point the aerial surveyor's participation has usually ended. His task has been to provide a statement of a specific section of terrain which begins with the taking of the aerial photographs and ends with the handing over of completed maps and plans.

Normal Work

These plans generally have been of two standard types: The revision of existing Ordnance Survey plans at 1/2,500 and the addition of contours (usually 5-ft. interval) for order plans and preliminary layout, and the preparation of larger-scale surveys, usually at 1/500 scale with a closer

same techniques can, of course, be applied to other types of projects for reservoir capacities, stockpile quantities, etc., or any others that involve large numbers of individual, simple arithmetical calculations that are tedious and time consuming. A particular attraction of this new method is the high degree of accuracy which it affords and its relation to the cost of ground survey in remote areas where conditions are very difficult and progress is often slow. It is, of course, possible to employ the new photogrammetric methods without necessarily combining them with the electronic processes.

Hi-Spec is the name that Hunting Surveys, Limited, has adopted for the technique which exploits, to the fullest extent, the most up-to-date means of photogrammetric data read-out for electronic computation in conjunction with specific design data. It takes no part in actual design nor is it intended that it should. It has

been developed for the express purpose of providing a service to the engineer at various stages through a design project and covering not only maps and plans, but also information both before and after this stage. The computation side of the work has been evolved in close collaboration with Elliot Automation, Limited, using National-Elliott digital computers.

The ease with which additional terrain data may be obtained once the photos are correctly set in the stereoscopic plotting instrument and the rapidity with which this data may be computed electronically is invaluable for the simultaneous study of a number of alternatives by introducing different design factors into the same computer programme. In highway work this feature is particularly advantageous in selecting the best alignment and grade line. Even in cases where final alignment has already been determined, Hi-Spec



The remarkable stereoscopic results that can now be achieved by aerial photography are apparent in this view

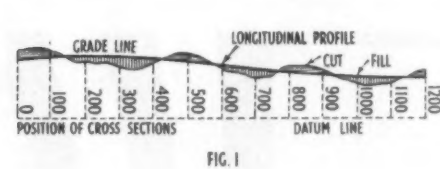


FIG. 1

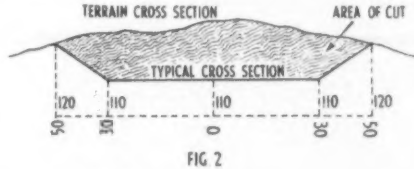


FIG. 2

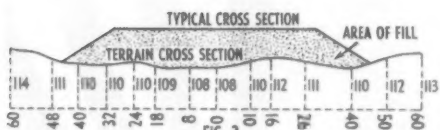


FIG. 3

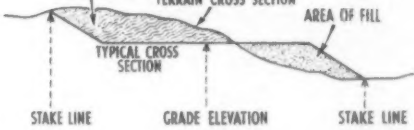


FIG. 4

Four figures showing results of sections obtained by photogrammetry with: (Fig. 1) terrain profile and superimposed grade line to indicate approximate balance between cut and fill; (Fig. 2) terrain cross section superimposed on typical cross section showing area of cut; (Fig. 3) terrain cross section and typical cross section showing area of fill; and (Fig. 4) typical cross section superimposed on terrain cross section to show areas of cut and fill together with stake lines and grade elevation

interval of contouring (1 or 2 ft.) for more detailed planning and design.

These two applications of aerial survey clearly indicate its main function as a replacement for the surveyor on the ground with his theodolite, chain and level. Air photographs from modern cameras and the plotting equipment designed to convert them into a variety of data can do much more. The pictorial evidence alone may be used to great advantage, even before any specific plans are produced and the form of data output from the plotting instruments may be varied to suit particular needs.

There is much sub-professional work involved in the preparation of the facts and figures of any major engineering project, but with a fuller application of photogrammetric techniques combined with electronic computation this could be greatly reduced. In particular, the calculation of earthwork volumes, stake-line distances and similar information can be rapidly undertaken by introducing the photogrammetric data and design data simultaneously into an electronic computer. The

may be used to great effect in the preparation of longitudinal profiles, cross sections (graphical or tabulated), areas and volumes in considerably less time taken by conventional survey methods and desk calculation.

Hunting Surveys has been instrumental in sponsoring the setting up of electronic computer programmes to cover the various applications of Hi-Spec, as it is felt that the time is rapidly approaching when this modern technique may well be the only one capable of dealing with the large amount of work necessary to implement the many forthcoming development plans.

Portable acetylene lighting units are being used by police authorities to investigate road incidents at night. Durham County Constabulary now has 28 units in emergency vehicles and patrol cars covering an area of more than 1,000 square miles. Named Alda-light, the unit is manufactured by Thorn and Hoddle, Limited, a member of the British Oxygen Group.



Delivery of milk to a 13-storey block of municipal flats at Park Hill, Sheffield, has been solved by using this scaled-down battery-electric truck. Built by Ross Auto and Engineering Co., Limited, of Southport, to the specification of Sheffield and Ecclesall Co-operative Society, it will carry 500 bottles of milk and is small enough to go into the lifts and to turn easily in the corridors of the building. It is 8 ft. long, 4 ft. wide and 6 ft. high; traction current is supplied by a D.P. Kathanode 220-amp.-hr. battery

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DARLINGTON-BUILT

First Diesel-Electric Locomotive

THE first of 20 diesel-electric locomotives of type 2 (1,000 to 1,365 h.p.) to be built at the Darlington North Road Locomotive Works of the North Eastern Region of British Railways has now been completed. It is No. D5094. Intended for both passenger and freight duties, two of these Bo-Bo locomotives (Nos. D5094 and D5095) will go into service in the Eastern Region and the



The first diesel-electric locomotive to be completed at Darlington works

remaining 18 (D5096-D5113) are for service within the North Eastern Region.

Leading particulars are: length over buffers 50 ft. 6 in., bogie centres 28 ft., bogie wheelbase 8 ft. 6 in., wheel diameter 3 ft. 9 in., weight in working order 75 tons and maximum designed speed 75 m.p.h.

These locomotives are similar to others being built in the Derby and Crewe Locomotive Works of the London Midland Region. They do, however, incorporate some modifications with a view to saving weight, and these modifications will also appear in subsequent locomotives built at Crewe and Derby. These modifications comprise detailed redesign of the mechanical parts, including a more extensive use of light alloys and changes to the power equipment, including the use of thinner steel plates in the engine and the use of an exciter-less generator.

Equipment

The main contract for power equipment was placed with the British Thomson-Houston Company, of which the traction interests have now been taken over by the A.E.I. Traction Division. The diesel engine for these locomotives is the Sulzer 6LDA28 six-cylinder in-line engine which develops 1,160 h.p. at 750 r.p.m. and which is now under large-scale production by Vickers-Armstrongs at Barrow-in-Furness. The electrical equipment comprises a generator unit, traction motors, control, certain auxiliaries, signal and protective devices. The generator is of the two-winding type with self and separate fields, the separate field being controlled by an automatic load regulator operated by the engine governor. The generator is solidly coupled to the engine and the armature of an auxiliary generator is mounted on

the same shaft. The four traction motors are of conventional design, nose suspended in chevron rubber units and driving through resilient gears.

The control gear comprises a main frame, housed in a dust-tight compartment, reverser, contactors, voltage regulator, relays, etc., also a driver's control pedestal is provided at each driving position and incorporates a driver's control and instruments and a deadman pedal. There are the usual signal and protective devices and provision for coupling in multiple with other locomotives. Provision has been made for the automatic warning system, the apparatus for which will be fitted as soon as it becomes available from the manufacturers.

These locomotives have been designed to the requirements of the British Transport Commission under the general direction of Messrs. J. F. Harrison, chief mechanical engineer, and S. B. Warder, chief electrical engineer, British Railways Central Staff, British Transport Commission; the supervision of construction is the responsibility of Mr. M. G. Burrows, chief mechanical and electrical engineer, North Eastern Region, British Railways, and the work has been carried out under the immediate supervision of Mr. J. S. Scott, works manager at Darlington.

A new type of hacksaw blade with progressive teeth, which overcomes the necessity for changing blades for different jobs, is being manufactured by Hacksaws, Limited, Sheffield. Named Aven, it has a pitch of 29 teeth per inch at the start, increasing in size gradually to 18 teeth per inch at the back end of the blade, and is available in high- and low-speed types.

BOOK NOTICES

Looking Forward on the Railways

BRITISH RAILWAYS TODAY AND TOMORROW. By G. Freeman Allen. (Hampton Court, Surrey: Ian Allan, Limited, Craven House. Price 25s.) This is the second edition of a book that fills a definite place in the vast pattern of railway literature, by refraining from elementary descriptions of how railway equipment functions and providing instead an admirable account of how it all dovetails into the business of the railway as a transport machine. Any who doubt whether the railways are really being brought up to date should not only study the book for itself but should take note of the fact that extensive revision has been required in the year that has elapsed since the first edition, especially in motive power matters. Unlike what is unfortunately a high proportion of books on railways, this one is not nostalgic; it looks forward to the railways performing a great deal of the nation's work in transport in the latter part of the 20th century and shows how it will probably be done, while being honest about rail handicaps. Having set the scene, the pros and cons of various forms of motive power in the light of the circumstances of the 1960s are followed by chapters on passenger service, accelerating freight transits, present-day traffic, motive power and signalling methods and the work of the civil engineer in providing permanent way for a modernised railway system. This well-written and amply-illustrated book justifies B.T.C. policy from a quite independent standpoint and provides an invaluable textbook of progress.

THEATREGOER'S LONDON. By W. Macqueen-Pope. (London: London Transport Executive, Griffith House, 280 Marylebone Road, N.W.1. Price 4s.) The famous theatre historian, W. Macqueen-Pope, here tells the story of "that enchanted piece of land which is the most exciting, romantic and vivid place in what is still the most exciting, romantic and lively city in the world." Pope records the histories of 48 famous London theatres with their legends and traditions, their ups and downs of fortune and the great managers,

actors and plays which have been associated with them. This volume will encourage more people to take advantage of the vast pageant of live drama which London's theatreland offers today—and no doubt London Transport hopes they will use the Underground for their journeys. Coinciding with its publication London Transport issued a poster map of the West End showing the position of the theatres.

HIGHWAY HOLIDAYS, 1960. (London: Index Publishers, Limited, 69 Victoria Street, S.W.1. Price 2s. 6d.) The latest edition of this guide to extended coach tours is seemingly more comprehensive than ever and it provides a concise summary of what is offered by operators of tours within Britain and on the Continent. It makes easy comparison for the potential passenger and reference for the travel agent.

BRITISH ENGINEERS' CUTTING TOOLS GUIDE FOR BUYERS. (Yorkshire: The National Federation of Engineers' Tool Manufacturers, Light Trades House, Melbourne Avenue, Sheffield, 10. Price 5s., post free.) A new book providing details of suppliers of British-made engineers' cutting tools. Features of the publication are alphabetical lists of tools in four languages and an alphabetical list of trade names and brand names.

DIRECTORY OF RAILWAY OFFICIALS AND YEAR BOOK, 1959-60. (London: Tothill Press, Limited, 33 Tothill Street, S.W.1. Price £3.) Publication of this edition was somewhat delayed by the printing dispute, but the time was not entirely wasted for the opportunity was taken to revise the contents to September. Each edition in recent years has incorporated various improvements and this is no exception. There is a new section giving details of suppliers of signalling and interlocking equipment throughout the world and, most usefully, divider tabs have been introduced at the beginning of principal sections of the directory.



A scene at Finsbury Park terminus of the single-deck L.G.O.C. bus service to Muswell Hill Broadway about 1923, when B-type vehicles were in use; with the abandonment of the Alexandra Palace railway bridge on Muswell Hill has been rebuilt and strengthened (the concrete subway will be for pedestrians) and the service is now operated with RT-type A.E.C. double-deckers. Over the years its number has changed from 111 to 212



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THE CHANGING SCENE

Transport Since 1947

By Sir JOHN BENSTEAD, C.B.E., Deputy Chairman,
British Transport Commission*

IN September, 1947, six of us sat down to consider the task ahead. Lord Ashfield and Sir William Wood have passed on—names that will always be remembered by transport men. Lord Hurcomb, Sir Ian Bolton and Lord Rusholme have retired. We faced no light task, and we could not have encompassed it without the aid of such men as Miles Beevor, (now Sir) Reginald Wilson, Michael Gilmour and others of like character and ability. In retrospect I sometimes wonder at the smoothness with which the transfer was effected. There had been many pessimistic prophecies that the necessary organisational changes and financial arrangements could not be accomplished with vesting day so near. It would be impossible for me to mention individually those who took over their respective responsibilities, but I think less than justice has been accorded to the members of the various executives which were formed. The acerbity of political controversy often obscures the truth. I can state unhesitatingly that no authority could have been served with greater diligence and integrity than were those who acted as our agents, and the officers who served them.

It will be recollected that the winter of 1946-47 was one of great severity, resulting in a fuel crisis which was only broken by the tremendous endeavours of the railwaymen. The nation could not afford a similar position and our minds were turned to the coming winter. The lines were cluttered with cripple wagons to the tune of over 200,000, 16.62 per cent of the total stock. The whole of the rolling stock was in a bad state following the years of war. Fortunately the winter was mild, but as a precautionary measure we had to divert traffic to road—British Road Services had not then been born—and this adversely contributed to our financial position at that time and started a movement towards road. Of the privately-owned wagon fleet which we took over—540,000 all told—a large proportion had grease axleboxes.

National Economy

During this time and for a considerable period afterwards the economic position of the country, with a scarcity of essential materials and war damage not yet overtaken, limited the activities of the Commission. For example, the White Paper on capital investment stated that supplies for the permanent way for 1948 must be reduced to current needs, without overtaking arrears. Meanwhile, from December, 1947, to December, 1948, the number of C-licences rose from 487,000 to 590,000.

In those early years of the Commission's life the whole emphasis of the country's industrial activities had perforce to be centred upon the drive for exports, the means to recover our national life. It will be recollected we were one of the last countries to abolish rationing. The inevitable result was a retarded effort to bring railways up to date and this condition persisted. When one hears on occasion, and particularly at election times, that our railway modernisation plan should have started in those early years, the plain facts are that anything on the scale now contemplated would have been completely out of question.

Major Tasks

A number of major tasks confronted the Commission. The first and most important was the unification and reorganisation of British Railways, and for this purpose the Executive was a prime instrument. It was, however, understood that after its initial tasks were discharged the Commission would review the railways organisation. The winter of 1950 was a particularly difficult one, but at the end of 1951 the Commission submitted proposals to the Minister designed to lead to further decentralisation to the railway regions combined with the development of a road-rail service for freight traffic under a single commercial management.

The second was the acquisition of long-distance haulage, essential for the building up of a road-rail integrated service. May I here interpolate that it is an obvious truth that one cannot integrate two things until they are both in your possession. The task of acquiring over 3,000 road businesses and moulding them into a viable concern was one of great magnitude, probably the most complex take-over and merger that this country has experienced. Until this had been largely achieved integration on any scale and with any precision presented great difficulties.

Government Policy

The Commission cannot avoid being subject to the general policy of the Government of the day, and the years 1950 and 1951 were of great importance. The General Election of 1950 saw the return of a Labour Government with a minute majority, followed in 1951 by a Conservative Government with a working majority. It so happened that this profound change coincided with the period when the Commission was at last in a position to implement the basic principles of the 1947 Act. Plans for integration had reached an advanced stage and broad agreement had been reached with the unions in regard to transfers of staff, but all had to remain in suspense, and finally in May, 1952, a White Paper was issued forecasting the break-up of the road haulage undertaking and requiring the decentralisation of the railway organisation. In this year the Commission secured a working surplus of over £50 million and a net surplus of £4½ million for the whole of its undertaking.

The Commission, as a body, and individually, has scrupulously refrained from political activity or controversy. Nevertheless it has a responsibility for a great organisation and a large staff whose lives are bound up with the industry they serve. On this occasion, as the annual report for 1952 indicates, the Commission made clear to the Minister that it was completely opposed to the proposals in regard to the breaking up of the road haulage undertaking. Looking back on this period of uncertainty and of anxiety there was one outstanding feature, namely, the surpassing loyalty of the officers and men of B.R.S. and their emergence today as a fine, efficient service is a tribute to their steadfastness. At the same time the change inevitably brought to an end the extensive plans which had been laid for road-rail integration.

Every country in the world, many of them facing the same difficulties as ourselves, had been watching the Commission's progress with the greatest interest, and it was felt by many that Great Britain, as has happened so often in the past, had probably found a solution to one of the most difficult economic and political problems of the day. However, the people's will must always prevail, and a fundamental change of policy was necessary.

Where Are We?

The change brought by the 1953 Act in the general duty of the Commission removed the responsibility for providing an adequate and integrated service—except in the case of London Transport. I am aware this is a highly charged political question, but it is one of fundamental importance. Are we a purely commercial concern? Are we a public service, or do we rest uneasily between the two? It is true we secured much freedom under the 1953 Act, particularly in regard to freight rates, but that freedom was essential whether we were functioning under either of the two conceptions mentioned. I cannot see, in a small, highly industrialised country like ours, that the railways, so essential to our economic life, can ever be free from the responsibilities of providing a public service. For example, should we cease to provide suburban services in the London area because they are uneconomic?

So far as an integrated service is concerned, is this such a revolutionary idea? It is often overlooked that with our railway and road cartage and delivery services this is an accepted fact. Unless the country is prepared to face colossal expenditure, common prudence will dictate the proper utilisation of our rail and road tracks to provide the most economic service for the country. As the Commission's report for 1953 stated: "The key word in the 1947 Act is 'integration,' the various implications of which have been frequently discussed. Perhaps the most significant implication is that in an 'integrated' undertaking it is possible to substitute for services which are duplicated or uneconomic an alternative (and probably more efficient) way of offering substantially the same services at lower cost, often by continuing the forms of transport available."

Impact Upon Men

Even prior to 1947 there was quite a body of opinion which foresaw ultimately regional transport authorities embracing the various forms of transport. The ever-changing pattern of transport brings with it the need for fresh thought and policy. Throughout its existence the Commission has had placed at its service the wholehearted co-operation and help from public-minded men drawn from diverse fields of industry and occupation to whom we owe a great debt. As I believe Herbert Morrison once said, they prevent us becoming too monastic.

What about the impact upon the staff during these years of change and stress? Nationalisation has been the subject of so much political controversy that sometimes any stick has been good enough to beat those employed in a publicly-owned corporation. Sound critical comment is the essence of democratic practice and should not be resented. However, unlike most of industry, public transport is open to the public eye and its shortcomings are visible, which make it an open target. I would only say that the steady daily drip of acrimonious criticism can lower the morale of any body of men. Whilst we at the top expect to receive bricks I would hope that a sense of fairness will be accorded to those men who at all hours on every day of the week and in all weathers provide an indispensable national service. I know that with my background I am bound to be biased, but I would maintain before all comes that in the main the staff in all sections of public transport are conscientious men and women who, particularly in times of crisis, are capable of great deeds. They are as essential to the economic life of the country as those employed in manufacture and the professions.

Unions Under Change

In this century we shall face in the years ahead a gigantic revolution, the implications of which are not clearly definable. Scientific advancement, increased mechanisation, automation, or whatever term we use, can bring great benefits, but those benefits should be shared equitably otherwise we shall have two new classes in the community, those receiving the benefits of these great advances and those serving them.

As I have endeavoured to illustrate, the changes during the years from 1947, and the difficulties all public transport managements have had to face, have equally fallen upon the transport unions. It may be that at the beginning too much was expected from nationalisation, but in the problems of recent years we have been fortunate in having unions with great traditional strength who have contributed steadiness and statesmanship under very trying conditions. It is sometimes overlooked that they are organisations completely dependent upon voluntary service and effort, and their leaders are not possessed of directorial powers.

POLYTECHNIC COURSE

Vehicle Automatic Transmissions

A SPECIAL course of six lectures on vehicle automatic transmissions, which will be given by W. N. C. Moore, B.Eng., A.M.I.Mech.E., has been arranged by the department of civil and mechanical engineering of the Polytechnic in London. The course will cover high-speed internal-combustion-engine characteristics, vehicle torque-speed requirements, the ideal variable-torque-ratio transmission and the basic theory and operating principles of various types of clutch, coupling, gearbox and torque converter. Lectures will be given on Wednesdays from 6.45 to 8.45 p.m., the first on February 24. The fee for the course is 11s. (including reservation fee) and enrolment forms, which must be returned by February 16, are available from the Head of the Department of Civil and Mechanical Engineering, The Polytechnic, 309 Regent Street, London, W.1.

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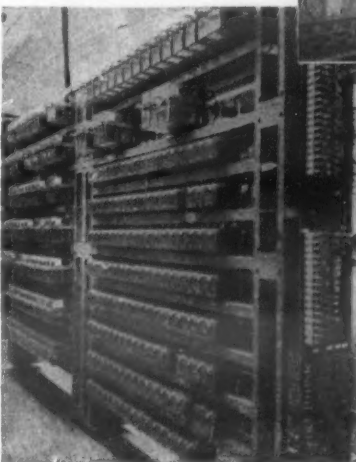


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* Abstract of address to Metropolitan Section of Institute of Transport.

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TWO TRANSPORT INDICES FOR 1958-59

ROAD AND RAIL TRANSPORT: TRANSPORT AND INDUSTRIAL PRODUCTION

INLAND GOODS TRANSPORT (January, 1958=100)				TRANSPORT AND INDUSTRIAL PRODUCTION (Average for 1958=100)	
1958	Road (estimate)	Rail	All inland goods transport†	Inland goods transport	Industrial production*
January	100	100	100	98	100
February	109	101	105	103	105
March	116	102	109	107	108
April	114	95	105	102	99
May	122	91	107	105	101
June	119	89	105	103	102
July	109	78	94	92	92
August	105	72	89	88	85
September	116	84	100	98	102
October	120	90	106	104	105
November	121	93	108	106	108
December	108	86	98	98	101
1959					
January	102	92	97	95	102
February	115	98	106	104	105
March	114	90	101	98	103
April	125	80	108	106	108
May	122	83	103	101	105
June	126	88	107	105	109
July	125	76	102	100	97
August	120	73	97	95	92
September	127	88	108	106	111
October	132	92	113	111	115
November	139	95	115	112	—
December	118	91	105	108	—

* Prepared by the Central Statistical Office.

† Excludes water transport.

INLAND GOODS TRANSPORT 1938-59

ESTIMATED TON MILEAGE (In thousand millions)			
1938	Road	Rail	Total
1938	8.10	16.3	24.26
1951	18	22.9	41
1952	18.3	22.4	40.7
1953	18.7	22.8	41.5
1954	19.5	22.1	41.6
1955	21.0	21.4	42.4
1956	21.0	21.5	42.5
1957	20.8(a)	20.9	41.7
1958	23.1	18.4	41.5
1959 (estimated)	24.6	17.7	42.3

(a) Fuel rationing during Suez crisis.

These statistics are drawn from the paper on road transport statistics by Mr. K. F. Glover read before the Royal Statistical Society on January 20. They should be read in conjunction with the page 2 leading article this week

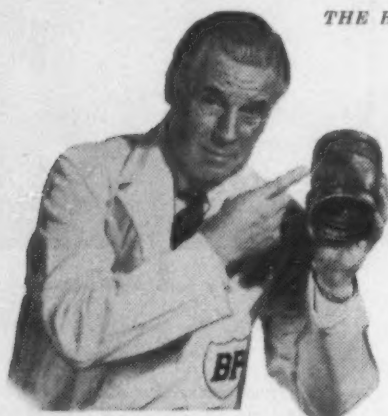
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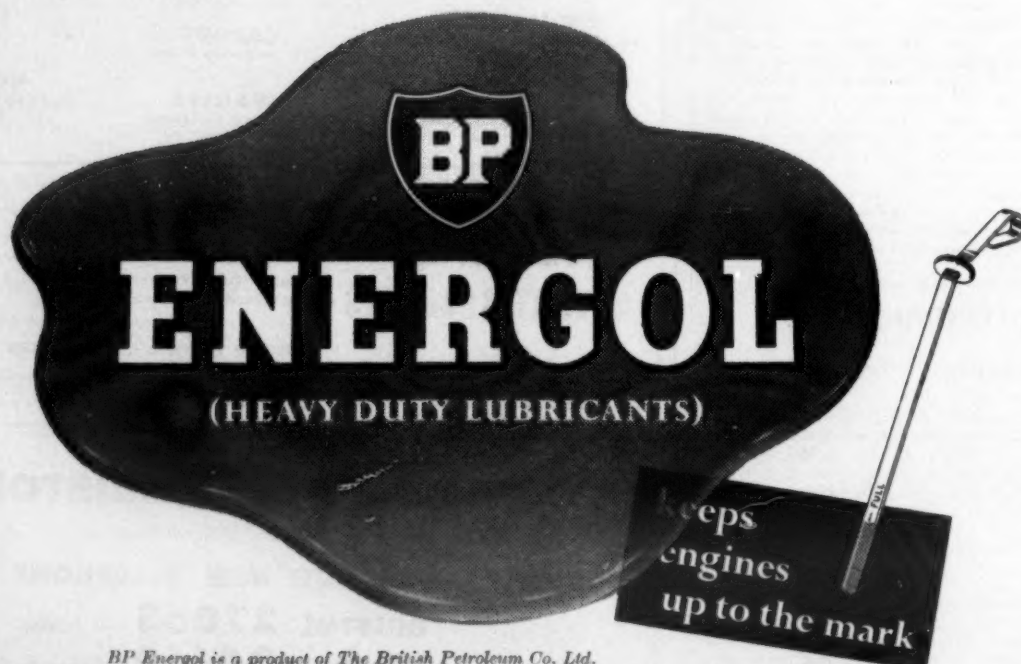
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R.M. BRAKE MAINTENANCE

Air Intensifier for Hydraulic Accumulator

A SPECIAL unit for supplying air under pressure to the hydraulic accumulators which operate the braking system of RM-type buses has been developed on behalf of London Transport and is being supplied to garages equipped with these vehicles. One of the problems faced by London Transport in preparing for these new 64-seat buses, which have been used for Stages IV and V and are to be used for remaining stages of the trolleybus conversion scheme, was that of topping up with air the piston-type hydraulic accumulators which operate the brakes. The accumulators on the RM vehicles have to be maintained at 550 p.s.i. air pressure, although they are in fact used as hydraulic accumulators to provide hydraulic fluid at very much higher pressures. Hitherto, a source of high-pressure air has been available in the form of bottles filled with air at 2,000 p.s.i. These bottles, filled by a compressor on the premises, were intended primarily for tyre inflation, but they are being superseded for this purpose by ring mains round most of the garages supplying air at 200 p.s.i., a process which has been going on for some years.

Boosting Mains Pressure

The 200-lb. air pressure cannot, however, be used for topping up the Routemaster hydraulic accumulators and, in order to avoid having to revert to the use of bottles, it was necessary to find a method of boosting the 200-lb. air pressure from the main. The result is an air intensifier unit developed and supplied by Technidraft (Hayes), Limited, to the requirements of Mr. A. M. Durrant, chief mechanical engineer (road services), London Transport.

The machine consists of a low-pressure single-acting cylinder coupled end-on to a high-pressure cylinder. It is so designed that when low-pressure air is introduced to both cylinders the air in the high-pressure cylinder is compressed and transmitted through a high-pressure Schrader valve to the accumulator being charged. The areas of the piston are 28.274 in. and 3.142 in. respectively, giving a ratio of 9 to 1. A non return valve is incorporated in the low-pressure supply line. To return the pistons to their original position, air is introduced at the opposite end of the cylinders by automatic switching through a porting valve. The pulsating movement thus set up continues until the full pressure of 550 p.s.i. has been reached in the accumulator. A relief valve set to operate at the correct accumulator pressure ensures that intensification does not continue beyond this point. A pressure gauge for visual checking is included.

The unit is trolley-mounted for easy manoeuvring and connections are made by suitable lengths of Lockheed hose which, when not in use, can be wound on hooks fitted to the handle.

CONGESTION IN CITIES

(Continued from page 3)

general rise of nearly 16 per cent in the whole Metropolitan area.

Loading and Unloading Restrictions

Kerbside loading and unloading, during the busiest times of day, is banned in many countries. In London loading facilities are reserved for vehicles in metered areas, while in "no-waiting" streets commercial vehicles are allowed 20 min. for the purpose. Nevertheless, it is sometimes advocated that the operation of goods vehicles should be restricted to certain hours. This pressure is unwise and further restrictions can only sensibly be imposed as a last resort and where an overwhelming case can be shown. The needs of commercial vehicles should carry a high priority and, if parking arrangements are properly organised, loading requirements can be met without resort to double-parking. Certain commodities, such as perishable goods from the early markets, have to be delivered at more or less fixed times; any restrictions would inevitably tend to increase congestion during permitted hours. Traders themselves are quite well aware of the necessity for the speedy completion of loading and unloading operations, as they showed in their campaign affirming that "kerb-space is precious."

Official policy is that there is no case for a central Government subsidy for off-street parking accommodation and local authorities in London are urged to finance off-street garages with meter-takings, which, if used in this way, would not attract income tax; it is assumed that there would be a deficit to be met from the rates. A more positive approach is required to the question, which should be viewed rather from the planning than the purely financial angle, and it is not inequitable that the ratepayers should contribute towards the cost of facilities, which add to the district's prosperity. American experience of perimeter parking is not encouraging and, unless there are adequate car parks, very frequent buses or trains and a substantial saving in time, the motorist prefers to do the whole journey by car.

IN PARLIAMENT

(Continued from page 9)

through vehicles not in a proper state of repair. Mr. Marples said he was not sure that the analysis of accident causes was as comprehensive or as accurate as it should be. He was trying hard to make his mind up on this point.

Borrowing Powers of Air Corporations

The Air Corporations Bill, which increases the authorised borrowing powers of the British Overseas Airways Corporation from £160 million to £180 million, and those of the British European Airways Corporation from £60 million to £95 million, was given an unopposed third reading in the Commons on January 27.

Off-Street Parking

Answering a question about the provision of off-street parking in St. Marylebone and Westminster, the Minister of Transport said that he was to have consultations with the local authorities very shortly and would impress on them the urgency of this matter. He knew of several projects in this area, either of a municipal or private character, involving a total provision for over 3,000 cars.

Glass-Beaded White Lines

Mr. A. ROBERTS asked the Minister of Transport when he proposed to carry out experimental tests on major roads with the sparkling white line. Mr. E. MARPLES said that tests have been made and are being carried out with these glass-beaded lines. (A substance incorporating glass beads, known as ballotini is used for this purpose.)

SOCIAL AND PERSONAL

U.I.T.P. Copenhagen Congress

SUBJECTS for discussion at the technical sessions of the Copenhagen Congress of the International Union of Public Transport on May 11-17, 1961, have been announced. They are:

"Public Transport within the Framework of Urban General Traffic Plans," by Messrs. L. Bartherotte (Bordeaux), N. A. Bogstra (Rotterdam) and J. Nyst (Liège).

"Relations between Light Railways, Regional Transport Undertakings and National Railways," by M. Paribeni (Fenit, Italy).

"The Place of Metropolitan Railways in Urban Public Transport," by Mr. A. H. Grainger (London Transport).

"Use of Electronic Computers on Timetables, etc.," by Messrs. R. Declercq (S.N.C.V., Belgium) and M. Mross (Hamburger Hochbahn).

"Air Suspension, Braking and Gas Turbines on Motor Buses," by Mr. M. Floner (R.A.T.P., Paris) and a German author(s).

"Techniques and Organisation for the Control of Traffic by Radio and Television," by Mr. S. Camp (Göteborg).

"Underground Crossings for Buses, Tramways and Trolley-buses," by Dr. F. Bandi (Bern); and

"Alternative Fares Structures," by Mr. L. C. Hawkins (London Transport).

H. M. the King of Denmark has granted his patronage to the congress and will probably attend the opening session.

Mr. P. McAuslan retired on January 31 as manager of the British department of Thos. Cook and Son, Limited. He joined Cooks in 1910 at its former head office in Ludgate Circus. Later he spent relief spells at a number of the company's London hotel branches. After service with the Royal Navy in the 1914-18 war he returned to Cooks and alternated between the winter sports department and the British department. During the 1939-45 war he was seconded to the London Passenger Transport Board to help with its public information booths. In 1949 he was made chief clerk of the

Thos. Cook British department and in November, 1957, he was appointed manager. At a presentation held at the head office on January 27 he was presented with a camera and accessories and some cut-glass tableware for Mrs. McAuslan by Mr. H. J. Thompson, inclusive traffic manager, on behalf of the staff.

Mr. A. J. Stevens, traffic manager, Doncaster, Eastern Region, B.R., will retire on April 5.

Mr. K. S. Martin, hitherto district engineer, Derby North, has been appointed assistant civil engineer, London Midland Region, B.R.

Mr. W. A. Moens, sales manager for national sales of the Dunlop Rubber Co., Limited, has retired after 34 years with the company.

Mr. D. R. Smith, traffic assistant, Bolton Transport Department, has been selected for the revised post of traffic superintendent with Leicester City Transport.

We regret to record the death of Mr. G. Brown, A.M.Inst.T., assistant to the general manager of Maidstone and District Motor Services, Limited, since 1948. He was 49 and had been with the company for 35 years.

Massey-Ferguson has effected a reorganisation of its engineering division in the United Kingdom. Under the direction of Mr. Ewen M'Ewen, director of engineering, Europe, Dr. B. F. Willets, Ph.D., M.Sc., A.M.I.Mech.E., M.I.Plant E., is now chief engineer, United Kingdom.

Mr. Claud Barrington, who is now a part-time member of the board of management of British Road Services and chairman of the Atlantic Steam Navigation Co., Limited, has joined the board of Samson, Menzies, Limited, insurance brokers. He has been an underwriting member of Lloyd's through the underwriting agency of Samson, Menzies, for many years.

Mr. J. S. Bright, who joined C.A.V., Limited, last year from F. Perkins (Canada), Limited, has been appointed service manager of the company. He will be responsible for control and co-ordination of all aspects of C.A.V. service at home and overseas. Mr. C. W. Billington will continue as service manager for the U.K. and will be responsible to Mr. J. S. Bright.

During 1959 no fewer than 15 members of the staff of the Maidstone and District Motor Services, Limited, completed 40 years with the company and a further 40 reached their 25th year, and last week tributes to their long and loyal service were paid at a dinner at the Royal Star Hotel, Maidstone, when long-service awards were presented by the chairman of the company, Mr. R. P. Beddow, C.B.E.

The following London Midland Region appointments have been made:

Mr. J. Stirk, to be assistant district goods manager, Liverpool.

Mr. L. A. Metcalf, to be traffic assistant to divisional traffic manager, London.

Mr. D. A. F. Quekett, to be assistant planning officer, general manager's office, Euston.

Mr. K. J. Davies, to be assistant planning officer, general manager's office, Euston.

Mr. T. E. Bell, to be assistant to line traffic officer, Crewe.

Mr. F. McNaughton, to be assistant district traffic superintendent (operating), Carlisle.

The eighth annual conversation of the Permanent Way Institution was held at the headquarters of the British Transport Commission on Saturday evening, January 30. The president of the Institution (Mr. C. E. Dunton, M.A., M.I.C.E.) and Mrs. Dunton received the members and ladies. During the evening there were addresses by the president, Monsieur M. de Vos (directeur-general, S.N.C.B.) and Mr. John Ratter (past president). Eight B.T.C. films were screened in three showings.

The annual dinner of the North Western section of the Institute of Transport took place at the Grand Hotel, Manchester, on January 27. The president, Mr. Reginald G. Grout, responded to the toast "The Institute of Transport," proposed by the Lord Mayor of Manchester, Alderman H. Quinney, D.L., J.P. The toast "Our Guests" was proposed by the chairman of the section, Mr. J. Gillanders, who presided, and the response was given by Mr. P. K. Burkitt, chairman, Manchester Steam Ship Owners' Association.

The late Mr. A. C. Hartley

WE regret to record the death, at the age of 71, of Mr. A. C. Hartley, C.B.E., B.Sc.(Eng.), M.I.Mech.E., president of the Institution of Civil Engineers and a former president (1951) of the Institution of Mechanical Engineers. He was oil engineer and perhaps best known as a contributor to the design of the wartime Pluto, the oil pipeline laid across the English Channel, and Fido, a fog dispersal system for airfields. Initially he served under the chief docks engineer of the North Eastern Railway in Hull, and was subsequently with the Limmer and Trinidad Lake Asphalt Co., Limited, and the then Anglo-Persian Oil Co., Limited, latterly as chief engineer. He retired as such in 1951. Since his retirement he had been in private practice, and was a consultant to Messrs. Rendel, Palmer and Tritton. For his wartime services he received the C.B.E. in 1944.

Mr. R. H. Hensman, deputy secretary, has been appointed secretary of Cable and Wireless, Limited.

The new manager of Thos. Cook's British department from January 31 is Mr. Sidney Wright, who succeeds Mr. P. McAuslan. Mr. Wright has been with the British department of Thos. Cook and Son, Limited, since he joined the company as an office boy in 1920. He has risen through the positions of clerk, controller, section leader and chief assistant to become manager of the department. His promotion will bring responsibility for most of Cooks arrangements within the British Isles—its advertised inclusive tours, motor coach tours (including London sightseeing drives), certain London and provincial hotel reservations, and arrangements connected with special events.

Mr. W. P. Yaneske has been appointed technical director to Toledo Woodhead Springs, Limited.

Mr. Hugh Hogarth (H. Hogarth and Sons, Limited) has been nominated as president of the Chamber of Shipping for the ensuing year. Mr. W. Errington Keville (Furness Withy and Co., Limited) is nominated as vice-president.

The Guild of Air Pilots and Air Navigators has this week announced that the Johnston Memorial Trophy has been awarded for 1959 to the Decca Navigator Co., Limited, in respect of the Decca navigational system, incorporating the Decca flight log.

The 1960 Brancker Memorial Lecture of the Institute of Transport will take place on February 8 in the Jarvis Hall (R.I.B.A.), 66 Portland Place, London, W.1, when Air Marshal Sir Denis H. F. Barnett, K.C.B., C.B.E., D.F.C., Air Officer Commanding in Chief, R.A.F. Transport Command, will speak on "R.A.F. Transport Command."

The directors of Guy Motors, Limited, announce that Mr. J. J. Parkes and Mr. Arthur Chamberlain are to join the board. Mr. Parkes is chairman and managing director of Alvis, Limited, and a director of the Cornhill Assurance, Limited, and the Society of British Aircraft Constructors, Limited. Mr. Chamberlain is a director of J. Brockhouse and Co., Limited, a member of the Western area board of the B.T.C., and Lloyds Bank, Limited, Midland board. At the extraordinary meeting of Guy Motors convened on January 29 shareholders voted without dissent for the re-election to the board of Mr. A. L. Blower, formerly chairman, and Mr. A. G. Jones, formerly managing director. It will be recalled that the re-election of these two gentlemen was defeated at the annual meeting in December on a snap vote by shareholders representing only 3.4 per cent of the ordinary shares. At the extraordinary meeting the shareholders approved the proposed action of the directors to re-elect Messrs. Blower and Jones chairman and managing director respectively and a meeting of the directors will shortly be held for that purpose.

Mr. G. W. Brimyard, formerly public relations officer, Great Eastern Line, has been appointed district commercial officer, Norwich. He graduated at Cambridge University and he entered the service of the London Transport Executive in 1949, gaining experience in the Central Road Services department and traffic development office. In 1951 he was appointed personal assistant to the member of the executive responsible for rail and road operating and commercial matters. Three years later he took charge of the southern section of London Transport's public relations office. Mr. Brimyard was appointed public relations officer, Great Eastern Line, Eastern Region, in 1957—a position he held until last September when he was chosen to attend the first course at the British Transport Staff College, Woking.

The Peninsular and Oriental Steam Navigation Company announces that Sir William Currie, having expressed a desire to relinquish the chairmanship on March 31, the board has elected Sir Donald Forsyth Anderson to succeed him as chairman. Sir William Currie will retain his seat on the board.

The merger of the Helicopter Association of Great Britain with the Royal Aeronautical Society which has been under discussion for some time has now taken place. The Helicopter Association has gone into liquidation and its activities have been transferred to the newly formed rotorcraft section of the Royal Aeronautical Society. Professor J. A. J. Bennett, D.Sc., Ph.D., D.I.C., F.R.Ae.S. (professor of aerodynamics, the College of Aeronautics, Cranfield) will be chairman of the new section committee.



Mr. P. McAuslan



Mr. Sidney Wright

Daily door-to-door express container services in especially-designed container-ships to and from NORTHERN IRELAND



- All parts of Northern Ireland, Scotland and England served
- Greatly Minimised Risk of Loss by Theft or Damage
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Door-to-door inclusive rates

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(London) Ltd and (Belfast) Ltd

LONDON 79 Dunton Road SE1 Bermondsey 4881/4 (Head Office) and Elland Road SE15 New Cross 4885/7 (Traffic Depot) PRESTON The Docks Preston 86742/4 LARNE (Northern Ireland) Bay Road Larne 2331/2 BELFAST 35/39 Middlepath Street Belfast 59261/5 MANCHESTER 2 270/1 Royal Exchange Buildings Blackfriars 9287/9 GLASGOW 10 Bothwell Street C2 City 6997/8 (Offices) and 17/21 Tylefield Street BRIDGETON 2277/8 (Traffic Depot) ANDROSSAN (Ayrshire) Harbour Street Saltcoats 1911/2 BRISTOL 61 Park Street Bristol 25435/6

CLASSIFIED ADVERTISEMENTS

Semi-Display

Semi-display advertisements can be inserted in the classified columns of MODERN TRANSPORT. Rate: 48s. per single column inch.

CLASSIFIED ADVERTISEMENTS MODERN TRANSPORT, 3-16 WOBURN PLACE, LONDON, W.C.1

REPEAT ORDERS for V.S. Automatic Control

FROM AUSTRALIA
One hundred and seventy sets of V.S. Equipment for bus service, have recently been supplied to the Department of Government Transport, Sydney, N.S.W. A repeat order for fifty sets has since been received—proof of satisfaction.

FROM S. AMERICA
Another order has recently been received from Omnibus Metropolitan S.A. Cuba, for 200 sets.

FROM NEW ZEALAND
Thirty sets of V.S. Automatic Control have recently entered into service in New Zealand.

FROM THE CONTINENT
Germany, Belgium, Holland etc., have recently ordered sets of V.S. Automatic Controls, whilst in Gt. Britain sales are increasing daily.

V.S. Automatic provides...
Longer engine and transmission life
Reduced driver fatigue
Improved passenger comfort etc., etc.

Designed for the "Wilson" Gearbox by the Transmission Specialists

Write for literature to:—

SELF-CHANGING GEARS LTD.
PATENTERS AND MAKERS OF THE "WILSON" GEARBOX
LYTHALLS LANE · COVENTRY · ENGLAND

IMPORTANT CONTRACTS

Another Aircraft Exports Record

FOR the fifth consecutive year the aircraft industry has achieved a record export total. The 1959 figure, £156,056,066, brought to £242 million the amount earned by aviation exports since the war and exceeded the 1958 figure by nearly £22 million. New orders for aircraft accounted for some of the total and included Comets for Greece and Mexico, Britannias for Argentina and Canada, Canberras for Iraq and Sweden, Sea Hawks for India, Bloodhounds and SeaCat missiles for Australia and Sweden, while six more customers ordered Viscounts. Engines did particularly well, sales amounting to £64½ million, an increase of £15 million, or 30 per cent, over the previous record total in 1958. Spares for aircraft and engines in service abroad were a third important factor.

More Leyland Diesels for U.S.A.

Among orders received by Leyland Motors, Limited, for variously powered diesel engines, which have covered a total of nearly 1,000 units during the first few weeks of 1960, is one for 32 Leyland O680 150-b.h.p. engines from Highways Products Inc., Ohio, U.S.A.

Delhi Transport Orders More Comets

One of the largest operators of Leyland buses in India, Delhi Transport Undertaking, has placed an order with Ashok Leyland, Limited, Madras, for another 50 Leyland Comet bus chassis to add to its 375 Comets already in service. Delhi Transport also operates 144 Leyland Worldmaster buses.

Iraq Gets Hungarian Buses

A consignment of 24 Hungarian Ikarus buses has been handed over to Iraq at a recent ceremony in Baghdad. This follows the visit of an Iraqi economic delegation to Budapest last November, when it was stated that Iraq was particularly interested in Hungarian buses and other vehicles and port installations.

A.E.C. "Upward Swing" in Australia

The new year was marked for A.E.C., Limited, by orders for 87 vehicles destined for various operators throughout Australia. A marked upward swing in sales is reported from A.E.C. (Australia) Pty., Limited, which has ordered 54 vehicles, comprising 30 Monarch Mark VI, 12 Mandators and 12 Mammoth Major six-wheelers.

Fourth 707 for Air India

Purchase of an additional Boeing 707-420 long-range jet aircraft by Air India International has been announced by the Boeing Airplane Company, bringing the total on order by this operator to four. All Air India's 707s, the first of which is due for delivery shortly, are powered by Rolls-Royce Conway by-pass jet engines.

Sabena Contract for Air BP

Air BP has been awarded a contract to supply jet fuel requirements at Montreal for Sabena (Belgian Airlines). Under this contract Sabena's regular jet services through Montreal, which are expected to start on April 1, will be fuelled from the new BP terminal at Dorval Airport. BP has

also signed an agreement with C.A.M.P.S.A., the Spanish oil concern, whereby the full Air BP service will be established at airports in Spain, including the international airports of Madrid, Barcelona and Palma. A number of Air BP fuelling vehicles arrived in Madrid this week for setting up the service.

Auto Diesels—Air Logistics Agreement

Auto Diesels, Limited, Uxbridge, and Air Logistics Corporation, Pasadena, U.S.A., are currently negotiating a two-way agreement under which the American firm will use the Auto Diesels gas-turbine air starter in its Model 10,000 Pilot Tug jet-aircraft tractor-starter and the British firm will build the Air Logistics Pilot Tug under licence.

BEDFORD L.W.B. VAN

(Continued from page 7)

some deliberate early slipping of the clutch to help, on the 1 in 4½ section near the top. At the other end of the scale, top speed was found to be in excess of 60 m.p.h. under favourable conditions.

Our three checks of fuel consumption indicated excellent fully laden economy using the intermediate grade of petrol that costs 4s. 8½d. a gal. in London. The first check was over our standard 15-mile out-and-back route between Limsfield Common and Riverhead on A25. This run was made non-stop, except for one halt at traffic lights, and a consumption of 30 m.p.g. was recorded for an average speed of 27.2 m.p.h. The speed was perhaps rather low for a light easily handled vehicle, but was in fact a result of baulking by slower-moving traffic for longish stretches in both directions. However, it seemed to us a fair representation of what a properly maintained CAL 15-cwt. van will do in service in similar circumstances, though operation at generally higher speeds would be likely to increase consumption.

The second check was in simulated local delivery work and was run over 7 miles of undulating road, which included the built-up areas of Whyteleafe, Kenley and Purley, making four stops in each mile and accelerating smartly up to normal traffic speed after each stop. At each alternate stop the engine was switched off and at others was left idling for a few seconds. In this check petrol consumption was at the rate of 22.6 m.p.g. The overall figure for 80 miles of mainly hard driving, including about 20 miles in London S.W. suburbs and the many stops and much full-throttle low-gear driving in our various checks, worked out at 23.8 m.p.g.

Fairly steady rain and very wet roads throughout the day prevented our usual measured check of brake performance but a number of stops on level road gave consistent readings of up to 60 per cent on the Don meter with the wheels at the point of locking. Heavier pressure on the pedal locked the rear wheels first and subsequent skidding was easily controlled. Our usual 7½-mile coasting run down Titsey Hill with speed controlled to about 20 m.p.h. on the footbrake revealed no tendency to brake fade.

SHIPPING AND SHIPBUILDING

Southampton Record

LAST year a record volume of shipping tonnage was handled in the port of Southampton. The net tonnage of shipping reached 26,204,808 tons net, compared with the previous record of 25,941,408 tons, in 1944—the year of the D-day build-up. Liners which used the docks accounted for about 13 million tons, the remaining 13 million tons was derived from ships at Cowes Roads, Fawley, Hamble, the Town Quay, and Royal Pier at Southampton and various wharves. The increase compared with 1958 was not far short of two million tons. About one and a quarter million tons of that increase was due to tanker traffic and the rest to shipping at the docks, the Town Quay and wharves.

Convention Afloat

THE next annual convention of the Association of British Travel Agents will be held by invitation of the Orient Line on its new 40,000-ton *Oriana* now building at Barrow. Provisional dates for the convention are December 3–8, 1960.

Soviet Hydrofoil Boats

BLUEPRINTS for the Soviet 300-passenger hydrofoil craft *Sputnik* are being completed at the Krasnoye Sormovo shipyards in Gorky, it is reported. She will claim a speed of 62 m.p.h. At the end of 1959 the Gorky yard launched the 150-passenger hydrofoil diesel boat *Meteor*. Her maximum speed is said to be 50 m.p.h. Hydrofoil craft are planned for use on many Soviet rivers this year, including some in Siberia.

Delay in Seaway Rules for 1960

BRITISH owners who use the St. Lawrence Seaway are becoming increasingly anxious at the delay on the part of the seaway authorities in issuing the regulations which will govern operations for the 1960 season. Some of the proposed amendments could entail considerable structural alterations to ships. With the new season starting on April 15, time is running out. As to pilotage, although no details are available, it is believed that the conflicting views of the American and Canadian authorities may have been resolved. The Canadian authorities have advocated compulsory pilotage in certain specified restricted waters only, whereas the views of the United States authorities were that pilotage should be compulsory in all United States waters of the Great Lakes.

Chamber of Shipping Survey

SEVERAL sections of the Chamber of Shipping have now submitted their reports to the shipping policy committee which was set up to undertake a comprehensive survey of the present state of the industry. The other sections are pressing forward with the work and it is clear from the material already to hand that the inquiry has produced a mass of information which will be of great value to the policy committee in its appraisal of the industry's prospects. The Council feels that reports of discussions which the Minister of Transport had had on shipping matters during his recent visit to America give conflicting accounts

about the American attitude to the proposed machinery for continuing the governmental talks following the Washington discussions last June but it is optimistic for the future.

Gas Turbine Cargo Vessel

THE 12,500-ton *Rembrandt*, the first general cargo vessel to be fitted with free piston gas turbine machinery in the United Kingdom, was launched at the South Bank, Middlesbrough, yard of Smith's Dock Co., Limited, on January 29 for the Bolton Steam Shipping Co., Limited, London.

Faster Bunkering at Aden

AT Aden, B.P. (Aden), Limited, is modifying two of its eight bunkering berths in the harbour to enable fuel oil to be pumped at a rate of 1,500 tons an hour into the new ships due to call at the port in the next year or two. The recently launched liner *Oriana*, of approximately 40,000 tons, is one of the vessels which will use the new facilities when she calls at Aden on her maiden voyage this year. Another large passenger vessel now being built for the U.K.—Australia run, the *Canberra*, about 45,000 tons gross, will also use the new facilities. Both vessels will carry over 2,000 passengers and are designed to reduce the time on the U.K.—Australia run by about one week. Consequently the bunkering time at ports en route must be reduced wherever possible and because of their large bunker capacity the liners need fast delivery.

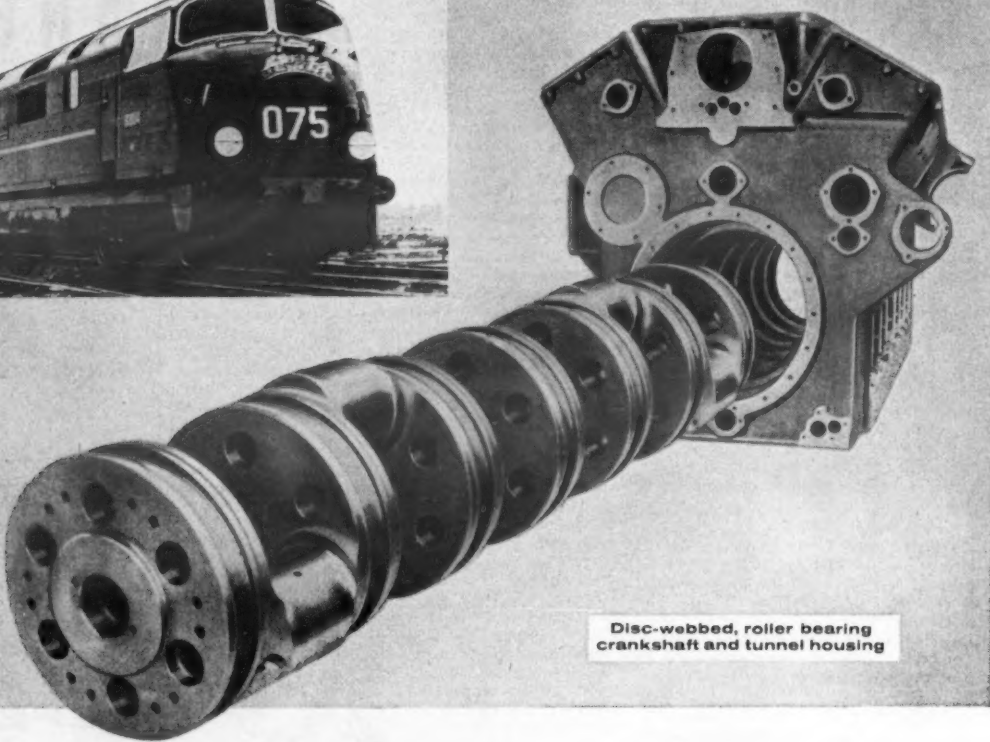
POSITIVE-DRIVE BELTS

Crofts—North British System

A NEW catalogue of Crofts PowerGrip timing belt drives now available from Crofts (Engineers), Limited, Thornbury, Bradford, 3, Yorks, describes and illustrates a range of toothed belts and pulleys that provide a positive non-slip drive suitable for a wide variety of automotive and industrial applications. The system embodies PowerGrip steel-reinforced rubber-neoprene toothed belts manufactured by North British Rubber Co., Limited, and transverse-grooved pulleys, having a simple means of fitting, developed by Crofts (Engineers). Simple installation is achieved by means of the Crofts patent Taper-Flushbush, which all pulleys are bored to receive.

PowerGrip drive is suitable for speeds from inches to over 15,000 ft. per min. and its design permits high-ratio drives at short centres. Stock drives range from fractional to 64 h.p. at 6,000 r.p.m., while larger sizes up to 1,000 h.p. are available at short notice. The load is taken by the continuous helical-wound steel cable belt core and the teeth are moulded in shear-resistant neoprene integral with the neoprene backing. As the drive is not dependent on initial tension, bearing loads are reduced and a further advantage is that lubrication and maintenance are not required.

Maybach rail traction
diesel engines—
from 400 to 2,000 hp
can achieve
16,000 hours between
major overhauls...



Disc-webbed, roller bearing
crankshaft and tunnel housing

...ANOTHER ENGINEERING ADVANCE FROM BRISTOL SIDDELEY

Bristol Siddeley Engines Limited produce Maybach* rail traction diesel engines. Covering a power range from 400 to 2,000 hp, these diesels are amazingly reliable and have shown that they can achieve major overhaul lives of 12,000 to 16,000 hours!

The proven basic design features of the whole range (straight 4 to 16-cylinder V) are the same, and each unit can be turbo-charged, or turbo-charged and intercooled. The range operates between 1,200 and 1,600 rpm and combines the best performance and design qualities of high, medium and low-speed diesel engines: light weight and compactness, excellent thermal efficiency and extremely long life.

Advanced design features

The pistons are pressure-oil cooled. This gives very efficient heat dissipation and reduces liner and gas ring wear to a minimum. The roller bearing, disc-webbed

crankshaft is exceptionally rigid within its tunnel housing, and in practice withdrawal is not normally necessary before 12,000 hours running. So low is big end bearing wear that in some cases the protective lead flash has been found to be intact when examined after 15,000 hours running!

Since the cylinder bore and stroke, and the majority of components, are identical in all models, spares stocks are considerably reduced. Servicing also has been greatly simplified because much thought has been given to accessibility and the removal of components. And the engines are suitable for both hydraulic and electric transmission.

World-wide application

Maybach rail traction diesel engines are in service all over the world and have built up an unsurpassed record for reliable and economic operation. Bristol Siddeley Maybach engines power the new diesel hydraulic locomotives of British Railways Western Region and an additional order for a large number has just been placed.

For further information please write to: Maybach Sales Manager, Bristol Siddeley Engines Limited, PO Box 17, Coventry, England.

*Under licence from Maybach-Motorenbau GmbH



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